THE CULTIVATOR.

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

Cattle Show and Fair

Of the State Agricultural Society, to be held at Syracuse on the 29th and 30th days of September, 1841.

We are gratified at receiving assurances from all parts of the state, that the plan of the September Fair of the State Society is well received, and will doubtless be attended in such a manner as to make it one of the most interesting exhibitions of the kind that has yet taken place in this country. It will be seen by a reference to the list of premiums (see Cultivator for June, page 93,) that for cattle between thirty and forty premiums, varying from $5 to $20 in amount, are offered; on horses, eight premiums of from $8 to $20; on swine eight premiums of from $5 to $10; on sheep, eighteen premiums of from $5 to $10; on farm implements, twenty-five premiums of from $5 to $30; making altogether a very extensive list of premiums, besides which a large number of discretionary premiums will be awarded on such articles as shall appear worthy of such distinction, and which could not be conveniently arranged under the foregoing classes.

We think the conductors of the public press who are friendly to the cause of agriculture would confer an additional favor on their readers, if they would call the attention of their farming subscribers to this subject, and press upon them the necessity of encouraging and attending not only the meetings and fairs of the State Society, but of adequately supporting, and efficiently organizing such county societies, as are contemplated in the law making provision for the advancement of agriculture. We trust that no remissness on the part of any will prevent the realization of the full benefits expected from these movements in behalf of agriculture.

Agricultural Prospects—Improved Stock, &c.

SINCE the July number of the Cultivator was issued, we have had the pleasure of an excursion through some of the western counties of this State, and though our time was necessarily limited, we had the satisfaction of calling upon many of our farming friends, and observing generally the appearance of the crops and the condition of agriculture. That great improvements are making in our husbandry, no one can doubt, who sees what it now is, and remembers what it was some twenty years since. In the appearance and management of the crops; in the kinds and qualities of the agricultural implements; in the superiority of the work performed; but more particularly in the animals on the farms, cattle, sheep, swine, &c. it is clearly to be seen great advances have been made.

The early spring was most unfavorable to the operation of the farmer, cold and wet, and consequently backward; and this was followed from about the 20th of May with extremely dry and hot weather through the greater part of June. The sowing of the barley and spring wheat, had been much retarded, and when done, was not accomplished under the most favorable circumstances, and the spring grains generally received at the onset a shock, from the effects of which they will scarcely recover, even under the favorable weather and refreshing rains since experienced. In some few districts the wheat is quite inferior, and as a whole, will not, we think, come up to a medium crop. Never have we known a season, in which the effects of plaster on grass lands have been more manifest than this, and the thick bottom of white clover, and luxuriant red clover of the fields, where this substance has been used, demonstrates the advantage of its application. In the drier sections of the west, grass will be lighter than usual, and it will be necessary to give the more attention to raising and saving other materials for fodder. The growth of the root crops had evidently been checked by the dry weather, but are now coming on finely, and potatoes, &c. give a promise of good yields. Corn, we think, appears better than any other crop; the hot dry weather agreeing with this plant, and where the soil was in good condition, giving it an unwonted luxuriance. We have rarely, in any year, seen more beautiful fields of this truly valuable grain. Of fruit, we may say, without exaggeration, the country is literally full of it. Apples, pears, peaches, plums, (unless by the negligence of the owners, the trees have been destroyed by the blight,) cherries, and all the minor fruits, abound, and will contribute much to the prosperity and comfort of the farmer and others.

We were much gratified also, in witnessing the tone of public feeling, and the true spirit prevailing on the subject of agriculture. There is more self-reliance, more inquiry, more reflection on the principles of husbandry among farmers than there used to be; there is less dread of innovation; a thing proposed is not condemned untried or unheard because it is new, nor with many are agricultural heresies deemed sacred, because they are of venerable age. Scarcely a town, or even neighborhood, can be found, in which are not found some well informed, well read agriculturists, who, by the silent, yet powerful influence of example, are gradually dispelling the prejudices and errors that have so long retarded the progress of the farmer. Such men bring to the notice of their neighbors and friends the agricultural journals of the day, and wherever these go, inquiry, experiment, and eventually improvement follow in their train.

Few of the calls or visits made by us, gave more pleasure, than the one to the farm of Col. SHERWOOD, at Auburn; as here, owing to the accidental detention of half a day, we had an opportunity, for the first time, of seeing some of the beautiful Short Horns, from the herd of Mr. ROTCH, of Butternuts, Otsego county. Col. Sherwood, the well known stage proprietor, being, by the progressive extension of railroads, partially driven from the business he has so long followed with advantage to himself and the public interests, resolved, last year, to devote a portion of his time and capital to the pursuits of agriculture. For this purpose, he purchased the farm formerly owned and occupied by the late United States Marshal, N. Garrow, situated on the western border of the beautiful village of Auburn. Having selected a lot of the best cows to be found in his vicinity, he determined to procure a few of the *best* Improved Short Horns, and we had the pleasure of viewing his purchases, which were principally from the herds of Mr. VAN RENSSELAER, of this city, Mr. ROTCH, of Otsego, and Mr. ALEXANDER, of the same county. Those from Mr. Rotch's stock, including those purchased of Mr. Alexander, exhibit in a striking manner the perfection and skill of good breeding, and present points of excellence, which are only found in animals bred by the most careful and competent observers; and those from this city were the choice of Mr. Van Rensselaer's herd. Altogether we think Col. Sherwood has reason to be proud of his stock, both blood and native, and we trust his success will be equal to the intelligence and enterprise he has shown in the undertaking.

After the examination of his own stock, Col. Sherwood had the kindness to accompany us to the farm of Major DILL, in the same vicinity, where, although the Major was unfortunately absent, we had the pleasure of seeing two beautiful Short Horn heifers, from the herd of Col. RANDALL, animals worthy of high commendation. We saw also a native heifer, of which, and justly too, the Major thinks very highly. In general appearance, she much resembles the cattle exhibited by Mr. Hooker, of Brighton, at the Monroe Agricultural Fair of 1833, and described by that gentleman in the Genesee Farmer, vol. 4.h, page 6. Mr. Hooker's cattle were black, with white spots, fine forms, and the prizes they received, showed the estimation in which they were held by the judges. According to Mr. Hooker's statement, they were "a cross of the Dutch Short Horn, with the Durham Short Horn." Major Dill's heifer is black, and from her form, color, and promising milking qualities, as well as her dam being black, it is probable she is from, or has partaken of the blood of that stock. Though but two years old, she has a calf by a Short Horn bull, and gives twelve quarts of milk per day.

It is surprising, when we reflect on the comparatively short time which has elapsed since public opinion has been directed to the subject, to witness the actual improvement in our domestic animals. Go where you will, you have pleasing evidence that the Berkshires, or their kindred improved breeds, are fast crowding out the omnivorous alligator races of swine from our land. Where the fineness of the wool grown is not so much of an object with the farmer, the fine South Downs are taking the place of the scraggy, coarse wooled sheep, that constituted the old flocks. And there is scarce a district in which traces of Short Horn blood are not to be seen more or less pure, in the herds that graze our rich pastures. In short, we find everywhere in the country, the most satisfactory evidences that farmers are fast assuming their true position in the State; that the cry of hard times is much less frequently felt than formerly; that honest industry is receiving a proper reward, and that in the spread of intelligence, knowledge and education, we have the surest guarantee that a state of things so properous will still be continued.

Kentucky Blue Grass.

MR. JOHN LEWIS has transmitted to us a memoir prepared by him on the subject of this grass, which, from the minute accuracy of the details, the botanical skill of the writer, and the perfect manner of the investigation, will, we hope, settle the proper place, name, and character of this grass among naturalists.

That it belongs to the *Poa* family or genus, was admitted by all; but there has been much dispute as to its species, and it has been by different writers called *P. viridis*, *P. pratensis*, and *P. trivialis*, and more recently Mr. Nuttall has described a species which he has called *P. pungens*, which appears in many respects to resemble this grass perfectly. According to Mr. Lewis, the celebrated Blue grass of Kentucky, and to the excellent qualities of which the great superiority of the beautiful pastures of that state is mainly owing, is called in Virginia *goose grass, yard grass, green sward*; in England great or *smooth stalked meadow grass*, and if so, it appears to be the same grass called in the northern states June grass, or the *P. pratensis* of botanists, which Mr. LEWIS, as well as Mr. STEVENSON, the able editor of the Kentucky Farmer, who assisted in verifying the details, is disposed to consider it.

We cannot imagine, when we reflect on the immense importance of the true grasses to the agriculture of the country, the trifling shades in appearance by which grasses wholly distinct in quality arese parated from each other, and the confusion in names which prevails even with regard to some of those the most common and best known, of a greater benefit that could be conferred on the agriculture of the United States, than a volume by some competent person on our grasses, indigenous and acclimated, with figures which shall make the distinctions apparent to all such as take an interest in such matters. Such a work we hope will ere long be undertaken, should not the volumes published as part of the survey of this state, render it unnecessary.

Florida Fruits.

COL. WYATT, of Florida, in answer to some inquiries of Judge Breckenridge, of Pittsburg, has furnished several papers for the National Intelligencer, containing much curious information respecting that country and its productions. Col. Wyatt thinks that eventually it will become one of the finest and most productive sections of the United States; that the famous everglades will be drained, and that the culture of sugar, Cuba tobacco, tropical fruits and plants, and indeed all kinds of valuable trees grown in any southern clime, will be successfully prosecuted.

In answer to an inquiry respecting the value of one acre of tropical fruit, Col. Wyatt says,—"I have no positive data to govern me in this estimate; but I would say that one acre cultivated in orange or lemon, allowing two hundred trees to the acre, (not an over number, I think,) and producing one thousand to the tree, valued at one cent each, would yield a crop worth $2,000. One acre planted in sugar cane, producing 2,000 lbs. at 4 cents per pound, would amount to $80; the same in cotton producing 200 pounds of cleaned cotton of the first quality, at 30 cents per pound, would come to $60. An acre planted to other tropical fruits, such as the pine-apple, fig, plantain, or banana, would no doubt far exceed the estimate for the orange and lime." Col. Wyatt deems the territory unfit for the culture of the coffee tree, that requiring a deep soil, and the whole of Florida being based on a limestone rock with a shallow soil, not suited to the long tap root of the coffee tree.

NEW PUBLICATIONS.

Prof. Silliman's Journal.

We have just received the July number of this always welcome and truly valuable journal. It contains as usual a great variety of papers, interesting to the scientific and general reader, and among others a report of the proceedings of the late meeting of the American Geological Association at Philadelphia. It contains, also, an able, but brief, "Preliminary account of the Hessian Fly and its Parasites," by E. C. Herrick, of the Yale College Natural History Society. Mr. H. has for a number of years been studying the history of the Hessian Fly, its habits, changes, &c. and we are pleased to learn that the present contribution is only preliminary to a more full and extended exposition of the subject. Of the first appearance of the insect in this country, the origin of its name, and the fact that it exists in Europe, and has been known for centuries, Mr. H. gives many interesting particulars. It has been doubted by some European writers whether the Hessian Fly was known in that part of the world, but Mr. Dana, who has been engaged with Mr. H. in these researches, having visited the Mediterranean, has proved that the insect is there, he having found it in the larvæ and pupa state in wheat plants on the island of Minorca, and from these the perfect insect, the *Cecydomyia destructor*, or true Hessian Fly, was evolved. There is no trace of the Hessian Fly in this country previous to the Revolution, which renders the common notion of its introduction by foreigners not improbable. An important part of Mr. Herrick's paper is that relating to the destruction of the fly, effected by *parasites*, Mr. H. estimating that at least *nine-tenths* of every generation of the fly is destroyed in this way. Mr. Herrick describes four species of parasites, one of which attacks the egg, and three of them the pupa of the fly. They are all minute *Hymenopterous* insects, and in some instances have been mistaken for the Hessian Fly itself.

There is little doubt that a number of other insects besides the fly, deposit their eggs upon wheat, and prey on the stem, and the importance of the wheat crop to the United States is such, that all attempts made by competent observers to elucidate their habits will be received by the farmer with thankfulness, since a discovery of their habits offers one of the best means of counteracting their ravages.

The Journal is published at New-Haven, Conn., by B. L. Hamblin, and conducted by Prof. Silliman and B. Silliman, Jr., at six dollars per annum. Agents in New-York, Wiley & Putnam, 161 Broadway—in Albany, W. C. Little.

North American Review—Liebig's Chemistry, &c.

The July No. of this ably sustained and leading Journal of American Literature, is before us, with its usual complement of well written and interesting articles. Among these are reviews of Robinson's Travels in Palestine, the Madison Papers, and, which is of particular interest to agriculturists, a very particular examination of Liebig's Chemistry applied to Agriculture. There are few works at the present day that have been so generally welcomed, and received with such universal favor as Liebig's volume, and Dr. Webster has conferred an important favor on American farmers by giving the public his edition with its valuable notes and appendix. Some of our contemporaries, who were disposed to imagine that we, in our notice of the London edition of this work, gave Dr. Liebig more credit than he was entitled to, will now, that the work is placed within *their* reach, be able to correct the errors into which they have fallen in regard to this subject. The Quarterly Journal of Agriculture has an able and discriminating paper on the volume, in which high praise is awarded to Dr. Liebig, although it dissents in some instances from his conclusions.

We have only room here to give the opinion of the American reviewer on the character of the volume:

"We regard the work of Liebig, as a work of extraordinary philosophical acumen, and conferring upon him the highest honor. The more it is examined, the deeper will be the interest it will create, and the stronger the admiration of the ability with which it is written. It is a work not to be read, but studied; and if further inquiries and experiments should demonstrate, as seems to us from many facts within our knowledge in the highest degree probable, the soundness of his views, his work, not merely as a matter of the most interesting philosophical inquiry, but of the highest practical utility, will be invaluable."

Experiments made at the Boston Conservatory the present season, corroborate in nearly every particular, Prof. Liebig's views of the nature of carbon, ammonia, &c. in promoting the growth of plants; thus affording new proof of the value of the chemical sciences when applied to an elucidation of the laws that govern the nutrition of vegetables.

The N. A. R. has reached its 112th number; is published in quarterly numbers of about 275 pages each, at $5 per annum, and is sent by mail to any part of the United States. Munroe & Co. 134, Washington-street, Boston, are the publishers. Subscriptions received by Wiley & Putnam, 161 Broadway, and by W. C. Little, Albany.

New-England Farmer.

This sterling and always valuable agricultural periodical, has just entered upon its 20th year; being, with the exception of the Am. Farmer at Baltimore, the oldest of the American agricultural journals. Under the supervision of its present able editor, the Rev. Allen Putnam, the Farmer is sure to lose none of the high character it has long and deservedly sustained, as the leading agricultural journal of New-England. A complete copy of the New-England Farmer, is the best history of American agriculture, (particularly in the northern states,) for the last twenty years, any where extant. If any proof were needed of the deep hold which agricultural improvement has taken on the public mind, and the rapid advance which the demand for agricultural intelligence is making, we have only to look back for a few years and compare the American Farmer and New-England Farmer, struggling for a doubtful existence, with the liberal patronage and extensive circulation, which not only these, but a multitude of other papers devoted to the same great object, are now receiving in this country. Success, we say, to the agricultural press and the cause of agriculture.

District School Journal.

This excellent publication, one so much needed, and one so essential to the prosperity of our magnificent and extended common school system, has, we are pleased to perceive, been removed to this city, and the first number of the second volume has just been issued in an enlarged form, on fine paper, and from the same press with the Cultivator and Northern Light, a sufficient guarantee for the excellence of its execution. By a law passed at the last session of the Legislature, the Superintendent of Common Schools is authorized to subscribe, in behalf of the State, for a copy of this Journal for each school district in the State, or to the amount of $2,800, to be paid from the U. S. Deposite Fund; and it is to be hoped that the town clerks will immediately comply with their duties in this respect, that the Journal may be forwarded to the several districts as soon as practicable. The name of the clerk of the district, or where this is not known to the town clerk, the name of one of the trustees may be sent; and the name of the post-office to which the paper for each district is to be sent, should be particularly specified to prevent mistakes. The District School Journal will be the medium of communication between the Superintendent and the officers of Common Schools, will contain a record of his decisions on any questions that may arise, explanations of the several acts relating to schools, and important papers and suggestions relative to the best management, teaching, &c. of common schools. Under the more immediate supervision of the indefatigable Superintendent and its able editor, F. Dwight, Esq. the Journal cannot fail to be one of the most useful aids to the great cause of education, in the country. To the officers of our district schools, and in particular to every teacher, it is indispensable. The present number contains the new act relating to common schools, passed May, 1841; explanations by the Superintendent; an important decision on the duties and responsibilities of Commissioners of Common Schools and Trustees, in the receipt and payment of public money; appointment of a General Deputy; editorial papers; meeting of supervisors; teachers of summer schools; a most valuable paper on the "Modes of Instruction in Common Schools," by "A."; (this paper we should be happy to transfer to our columns, and will hereafter endeavor to make room for it if possible;) an article on "Drawing, for Schools, Lyceums, and Families," by Josiah Holbrook; and a well written story illustrating the government of children. We trust the Common School Journal will receive, as it deserves, an extensive circulation. Terms, 50 cents a year.

"The Orchard and Fruit Grower."

We get up some very beautiful books in this country, and the art is evidently making rapid progress among us; still in matters of taste the Londoners, from their long experience and ample means, must be considered altogether ahead of us. Here is this volume, of which the title is given above, with its fine paper, splendid binding, gilt edges, and beautiful illustrations, more resembling an 'annual,' than a book devoted to the culture of trees and fruits.

Mr. McIntosh has given the public a work, which will be acceptable to every fruit grower, containing as it does, full accounts of all the most valuable cultivated fruits, lists of their varieties, extensive and useful, and illustrations of quite a number of fruits, "colored to the life." The directions for grafting, budding, &c. are ample, and the various diseases of fruit trees, as they occur in England, are carefully noticed, and proper remedies pointed out. It is somewhat remarkable, that among the varieties of fruits, will be found some marked as first rate, and considered of undoubted value, which, in this country, are not ranked higher than second or third rate fruits. The apple, pear, and particularly the peach, furnish examples of this, a result, probably, owing to the difference of climate in the two countries. It is also singular, that in the list of diseases of the plum and cherry, there is nothing to be found resembling the black blight, or black excrescence which is proving fatal to so many of these valuable fruits in this country. Particular mention is made of the American blight or cottony aphis, (*Aphis lanigera*,) the origin of which has usually been attributed to this country, but which Salisbury thinks can be satisfactorily traced to France. It is one of the most injurious insects in the British fruit gardens or orchards, but it can scarcely be said to have an existence in our orchards, or in the country, it is so rarely met with.

We have never seen any fruit colored in imitation of nature so successfully performed as in the volume before us. The *colored* plates, embrace the apple, several varieties, apricots, nectarines, cherries, currants, figs, gooseberries, pears, peaches, plums, raspberry, strawberry, grape, &c. We hope the time is not distant when the public taste will authorise American publishers to undertake the production of volumes similarly illustrated, as correct drawings, faithfully colored, are to the fruit grower what maps are to the student in geography.

The English New Farmers' Journal.

An agricultural journal, with the foregoing title, has lately been commenced in London, in connection with the "Society for the Protection of Agriculture," and the numbers display considerable talent as well as much zeal in the cause to which it is devoted. The favorable auspices under which it has commenced, and the array of practical men engaged in its support, will doubtless give it permanency and extensive usefulness. The New Farmers' Journal is a warm, not to say violent, advocate of the present Corn Law system in Great Britain, and vehemently deprecates the changes contemplated by the ministry. We think, however, the advocates of existing abuses, and such to a certain extent the Corn Law system certainly is, will find it difficult for any considerable time, to stem the current of public opinion, and that, should the present ministry be overthrown in the struggle, their successors, to be secure of their seats, must make such concessions and alterations as the mass of the nation demand. Those in this country who take an interest in those topics, upon which one of the fiercest struggles for power which has ever occurred in Great Britain, is now turning, will find in the New Farmers' Journal the best record of the progress and the probable results so far as the question of bread or the Corn Laws is concerned. The Journal is a large sheet of eight pages, and gives a general synopsis of interesting European news, independent of its agricultural articles.

Growing Plants in Charcoal.

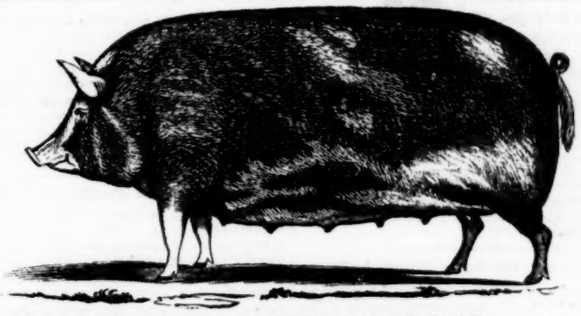
In the appendix to the first part of Prof. Liebig's Organic Chemistry, is an interesting paper on the action of charcoal on plants, from "Buckner's Repertorium," by E. Lucas. The experiments were performed at Munich. That plants would vegetate and grow in nearly pure charcoal, was discovered by accident, and this discovery was followed by experiments which placed the action of this substance in a curious and striking light.

The first experiment consisted in mixing a certain proportion of charcoal dust with the soil, increasing the quantity in the successive experiments until pure charcoal dust was alone used. When two-thirds of the coal was used with vegetable mold, several classes of plants, such as the *Gesneria* and *Aroideæ*, were found to thrive admirably, and attracted much notice by the great beauty of their parts, and their general appearance. They quickly surpassed those cultivated in the common way, in their thick stems, rich color of their leaves, and their beautiful blossoms. "A *Cactus* placed in a mixture of equal parts of charcoal and earth throve progressively, and attained double its former size in the course of a few weeks." It was also found that in all those cases in which it was customary to mix sand with the mold in which plants were to be set, the substitution of charcoal dust for the sand, always rendered the vegetation stronger and more vigorous.

Experiments were now made with pure charcoal, and the best results were obtained. More than 40 species of plants, which are many of them named, were grown in this way; and cuts of plants from different genera took root and grew well and quickly. "Pure charcoal acts excellently as a means of curing unhealthy plants. A *Dorianthes excelsa*, for example, which had been drooping three years, was rendered completely healthy in a very short space of time by this means. An orange tree which had the very common disease in which the leaves become yellow, acquired within four weeks its healthy green color, when the upper surface of the earth was removed from the pot in which it was contained, and a ring of charcoal of an inch in thickness strewed in its place around the periphery of the pot."

The charcoal employed, was the dust-like powder from fir or pine coal, such as is used by blacksmiths, and produced the most effect when it had been exposed through the winter to the action of the air. Experiments with animal and other charcoals were made, but that from pine proved superior to the rest, on account of its fineness and the ease with which it is decomposed. Charcoal acts in two ways; first, by its tendency to preserve all plants and substances from decay; and secondly by the carbonic gas it furnishes during the slow decomposition it undergoes, and which in five or six years converts it into a coaly earth. It thus yields directly and constantly one of the most essential elements of plants, and gives a beautiful color, and a great luxuriance to plants cultivated in that manner. Where pure charcoal was used, large quantities of water were required, as the air having free access dries the roots rapidly, unless prevented by water plentifully applied.

That charcoal is of great value as an agent in promoting vegetation, has long been known to every one who has witnessed the crops successively grown on those places where coal pits have been burned; but a great loss is sustained annually by the waste of the immense quantities of dust at the forges, furnaces and smith shops of the country, where this substance is considered a nuisance rather than otherwise. We have seen the best effect produced by the mixture of coal dust with the soil of the garden, and hope more attention will be paid to this matter than has hitherto been done.



PORTRAIT OF DR. MARTIN'S BERNICE.—[Fig. 66.]

The above portrait was taken by Mr. Foster, for the Western Farmer and Gardener, from which paper we copy it. Bernice was from a Woburn sow by a *white* Berkshire boar, and weighed, when 8 months and 7 days old, 354 lbs. We shall in our next, give a portrait of Dr. Martin's Woburn sow, the dam of Bernice.

Feeding Pigs, &c.

In the June number of "The Agriculturist," is Dr. Martin's account of his method of feeding his pigs in the experiment of feeding Berkshires against Woburns, noticed in our last number, page 106. At first, every morning and evening four pints of meal were made into mush, and this, mixed with sufficient milk to enable them to swallow it with ease, was found to agree with them, and was never all eaten. Afterwards they had their meal made into bread, and fed to them in the middle of the day. Six pounds were allowed, but they were unable to eat it all. One pound of cracklings a day was allowed part of the time, but it disagreed with the pigs, and was discontinued. As the feeding progressed, the meals, morning and night, were mush and bread, and vegetables of some kind at noon. After they began to receive their vegetables, which were apples, potatoes, cabbage, carrots, beets, &c. they generally eat the whole of their food. Under this system of feeding, one of the pigs, Bernice, a portrait of which is given above, (fig. 66,) in 90 days gained 176½ pounds, and the other, Bertha, 187 pounds. On the 11th of April, Bertha, was bred to one of Mr. Martin's boars, and from the 13th to the 20th she gained thirty pounds, being at the rate of four and a half pounds per day. "But a part of this was filling up after living on half allowance for some days." Such experiments as have been made by Messrs. Fanning and Martin, are always interesting; but they may be made more accurate, by ascertaining the quantity and value of the food consumed, by feeding different pigs at the same time on different kinds of food, and thus ascertaining the nutritive powers of each, and a register of the results drawn up in a tabular form, which will give at a single view these several points, which are of the most consequence to the farmer. The great Valley of the West offers the most extensive field of agriculture in the world, and present appearances indicate that the men who inhabit it are happily not deficient in the energy and enterprise which will be required to develop its resources. Tennessee, in the amount of corn grown, has exceeded any other State in the Union, but if, as is asserted, she has paid out in the past year, more for flour than her cotton and tobacco crops have netted, it is clear a different system is demanded. There must be more roots, more grass, more cattle, more swine, and, as a natural consequence of the preceding, more wheat grown, if the farmers of that fertile State will make the most of their position. Fortunately there are examples before them of the best kind, and with these, and the promptings of the "Agriculturist," it is scarcely possible a better state of things should not soon prevail.

Signs of Better Times.

1. All agricultural produce commands a fair, steady, compensating price, alike removed from the depressed state which sometimes has existed, or the unnatural inflation through which we have just passed.

2. Speculation has had its day, and the thousands who have been ruined, have had time to repent at their leisure. The mass of the nation are convinced that honest industry, and slow and sure profits, are far preferable to the haphazard and demoralizing influence of such haste to be rich.

3. Agriculture, it is evident, is assuming its proper place in the estimation of the public. This may be attributed in part to the knowledge respecting it, which has been distributed by agricultural journals, and in part to the results of the agricultural census, the results of which have demonstrated the paramount importance of this interest.

4. We find evidence that the mass of reading men begin to think and demand information on the subject of agriculture, in the fact that all our leading newspapers and most influential journals, are in the habit of devoting a part of their publications to the dissemination of papers interesting to the farmer.

5. In the processes of farming, yearly advances are making. We have this year seen crops of the heaviest growth, where, only a few years since, a quaking bog existed; better and more productive kinds of corn and other grain have been brought to notice; the culture of roots has been introduced, and found a most important auxiliary to the farmer; and more attention is paid to the cleaning of land, and the destruction of weeds, than formerly.

6. Superior breeds of cattle, sheep and swine have been introduced, and are rapidly spreading over the country; in short, the elements of individual and national prosperity were never more fully developing themselves than now. Let the farmer be thankful.

Planting Trees.

We hope those who, during this sultry weather, are enjoying the coolness and beauty of foliage from trees planted by the hands of others, will reflect, whether they are not under some obligation to do something in the same way for the benefit of others. Grounds planted with trees do not add more to the beauty of the landscape, than they do to the comfort and health of the inhabitants. That wise provision of Providence, by which the leaves of trees are the great purifiers of the air, absorbing the carbon and liberating the oxygen, has rendered it necessary that plants should exist, and there are few that so well unite beauty and utility as do trees. How certainly, when traveling through a country, if we find a farmer, the roads through whose grounds are planted with trees, his farm buildings embowered in fruit or ornamental trees, and a few clumps or single trees scattered about his fields for the comfort of his animals, do we set down such a man as one of intelligence, taste, and usually of thrift. There is nothing more detrimental to the proper arrangement of farms, and their adaptation to the comfort and convenience of the owner, than the continual shifting and migration so common among our farmers. That man rarely has patriotism or love for his fellow-men strong enough in his breast, to pay much attention to beauty, or even comfort in what he does, who is expecting or intending to change his residence the first opportunity that offers. Men may, and doubtless do, sometimes better themselves by selling and removing, or by exchanging farms, but the reasons for removal should be well weighed, and the prospects of advantage or disadvantage fully considered, before any such movement is made. We would particularly advise the young man, about to commence life, to be very cautious in purchasing his farm, but when once bought, unless imperative reasons forbid, to consider it his home for life, and to set himself in earnest to make such arrangements as shall, at a future day, or as soon as possible, make his farm a residence so desirable, that change shall be regarded as a positive evil, a thing not to be thought of. Let him construct his buildings with regard to permanence; arrange and plant his grounds so as best to unite taste and comfort; and let him remember that every one is under obligation to contribute his share to that elevation of mind and enlarged intelligence that should characterize the American farmer.

But we are here met with the common objection:—"It takes trees so long to grow, that if I plant them I shall never derive any benefit from them, so I will leave that matter to those that want them." This course of reasoning is most objectionable; if carried out it would nearly annihilate progress or improvement of any kind. But it is rarely true with respect to the individual, and never so with regard to the results. It does not take as long for our forest trees to become both useful and ornamental, as some seem to suppose. Those who contributed to plant Washington Square at Philadelphia with the Linden, have for years, many of them at least, enjoyed their beauty and their fragrance. Many of the majestic elms of New-Haven and Boston, contribute to the comfort of those who planted them, and parents look on with pleasure at the graceful collonades and deep shades, a little forethought has provided for the happiness and health of their children. Some sixteen years since, we bordered our avenue with the maple, going into the forest and taking up small trees, two or three inches in diameter, and transplanting them into holes previously dug for their reception. Some few of them died, as was to be expected, but of the forty or fifty that remain, some are more than a foot in diameter, and more beautiful trees are rarely seen. Two acres planted out with the maple in the same way, would now have furnished a family with all their sugar, and given one of the most beautiful woodland pastures that can well be imagined.

What is there to hinder the planting of trees by the road side becoming part of the common system of highway management? In Germany, the roads for hundreds of miles are bordered with trees, and contribute as much to the beauty of the country as to the comfort of the traveler. A little time spent every year in each district, in transplanting trees, would, in a short time, wholly change the character of large sections of our country, so far as appearance is concerned. Our forests will furnish abundance of suitable trees, particularly in those places where the large timber has been cut out, and young trees from such places are more likely to succeed than if taken from the depths of the woods. Let the experiment be tried; let the maple, elm, ash, linden, or, indeed, almost any other forest tree be planted out, and the most of those who assist in the labor, will participate in the pleasure and the benefit they will assuredly confer. But if those do not, others will; the present generation is not the last, and if taste and intelligence increases, as we hope they may, there are few claims on the gratitude of posterity that will be more cheerfully honored, than the one arising from the improvement of the country by the planting of trees.

Currant Worm.

We have noticed that in many parts of the country the currant has this year been extensively attacked by a new enemy, or, if an old one, in far greater numbers than ever before known, in the shape of a small green worm, which multiplies so rapidly, and is so voracious, that bushes attacked by them are stripped of every leaf in a very short time, and the fruit, if it does not fall off, is consequently poor and worthless. It feeds on the gooseberry also, but prefers the currant, and is a different worm from the gooseberry depredator, the *Abraxus grossularia*. The following description of this currant worm, we copy from McIntosh's Orchard and Fruit Garden, as it is very accurate and divested of technicalities:

"Early in March, if the weather be favorable, the first flies of this insect, the *Nematus ribesi*, issue from the chrysalis, a few inches below the soil, at the foot of the bushes. Soon after the females deposit, on the under surface of many of the leaves, along the ribs of each leaf, a series of eggs, which appear like strings of small, pellucid, delicate, oblong beads. A single fly will fill up the ribs of many leaves; and as many generations are produced in one season, the destruction of a single fly at an early period, is the prevention of some thousands of voracious successors. The following times of hatching, &c., may be relied upon as accurate. On the 9th of April the eggs are laid; on the 19th they are hatched; and, if the temperature be mild, the caterpillars grow rapidly, and from their numbers, soon destroy the foliage on the chosen bush. They usually continue in the caterpillar state about 10 days, when dropping to the earth, they penetrate below the surface, and change into a small brown chrysalis; in which dormant state they remain from 14 to 17 days, and then come forth as flies, which in a day or two lay their respective quantities of eggs." The writer adds, "I am not aware that any limits of season act as a check, unless attended with a decrease of temperature, which of course puts a period to their progress. The grub or worm is of a green color, (from three to five-eighths of an inch long,) covered with many very minute black tubercles, which it loses at its last mouit. Its ravages are worse than that of the gooseberry worm." "The most effectual remedy," says the same work, "yet discovered, is syringing the bushes over, on the first appearance of the enemy, with clear lime water, making use of the bent or inverted syringe for the purpose of throwing the water on the under side of the leaves."

The currant is a valuable fruit, and as yet in the States has been remarkably free from insects. It may, however, become as infested here as abroad, and a few such strippings of the foliage as some gardens have received this year, would destroy the bushes entirely. It would be well, therefore, for gardeners and others who have such bushes to be on their guard, and by timely attacking the worm, prevent the certain spread of the evil.

Strawberries.

"'The strawberry should have a place in every garden'—says the Albany Cultivator. Perhaps it should around Albany, where few or no strawberries grow spontaneously in the fields; but here, in Maine, we believe strawberries should have a place in *no* garden; we have so many millions of them in our fields, that there is no necessity for cultivating them." So says our friend Drew, of the Maine Cultivator, and sorry we are he has said it; since fertility, and "millions" of strawberries, are never, we believe, associated in the mind of the farmer. We have never known a pasture with a close sward of white clover, timothy and blue grass, a pasture that produces fat kine, or fills the dairy woman's pail; or a meadow that would cut three or four tons of hay per acre, that had millions of strawberries growing in them. And further, we have found that when we were so unfortunate as to have strawberries in our meadows, the damage done to the grass, and the increased difficulties of mowing, greatly outweighed all the profits of the berries. The farmer does not always have strawberries brought to his door at three pence a quart, nor can his wife or daughters always leave their work to ramble over the fields to gather them. We still say, therefore, to every farmer, have a strawberry bed in your garden. They are easily cultivated, will produce bountifully, may be gathered readily, and every one knows strawberries and cream make a dish not to be sneezed at.

Correction.—A correspondent wishes to correct the statement made by Mr. Edgerton of Mt. Moriah, in the April No. of the Cultivator, respecting the quantity of carrots raised per acre, it being stated too high by 140 bushels; and he wishes to ask whether, when it is stated that some of the roots were 18 inches in "*diameter*," it ought not to read "*circumference*?"

AGRICULTURAL SOCIETIES.

New-York State Agricultural Society.

The July meeting of the Executive Committee of this society was held at Niblo's, in New-York, on the 21st—the President in the chair. Gentlemen were present from the counties of New-York, Dutchess, Westchester, Kings and Queens. Of the Executive Committee, Messrs. Johnson, Walsh, Nott and Tucker, were present.

On motion of the Hon. Jeremiah Johnson, a committee was appointed for the county of Kings, to solicit members and contributions to the society. A similar committee was appointed for New-York; and on motion of A. G. Carll, Esq. of Jericho, for the county of Queens; for Dutchess, on motion of J. W. Kneevels, Esq. of Fishkill; and for Westchester, on motion of T. Fountain, Esq. of Peekskill.

The following members were admitted:

Carll, A. G. p. m. Jericho.	Mott, Jordan L., New-York, $5.
Gere, Luther, Ithaca.	Pond, S. P., Brooklyn.
Ingell, Wm., Volney.	Ransom, Joel L., Millport.
Johnson, Jere'h, Brooklyn, $10.	Underhill, R. S. do.
Kneevels, J. W., Fishkill.	Whipple, J. E., Lansingburgh.
Kowwenhoven, G., Flatlands.	Willoughby, S. A., Brooklyn.

On motion of the President, it was resolved that the next meeting of the Executive Committee be held at Rust's Hotel in Syracuse, on Wednesday, August 18, at 10 o'clock A. M. for the purpose of appointing committees, and making the necessary arrangements for the Fair to be held at that place on the 29th and 30th days of September, 1841.

Onondaga Co. Ag. Society Fair.

The Annual Meeting and Fair of this Society is to be held at Syracuse, on the same days (the 29th and 30th days of September,) with those of the State Society, which meets at the same place. Liberal and numerous premiums have been offered, and arrangements made which it is believed will be satisfactory to all. It is cheering to receive from every part of the state, and particularly from the old and substantial agricultural counties such proofs of a revived interest in the cultivation of the soil. The autumn of 1841, will be but a succession of these farmer's holidays in the state of New-York, and an impulse to the good cause may be expected, the influence of which will long and beneficially be felt.

County Ag. Societies in New-York.

Jefferson—A Society was organized in this county on the 19th of June. The following are its officers:

ORVILLE HUNGERFORD, President.

Vice Presidents.

W. C. Pierpont,	Wm. McAllister,
Elisha Camp,	Wm. Carlisle,
Robert Doxtater,	Geo. Brown,
George White,	Abiathar Joy, jr.
C. E. Clarke,	Geo. Woodruff.

Executive Committee.

Edmund Kirby,	Abner Baker, Jr.
John L. Goldsmid,	John A. Sherman.
N. M. Woodruff,	

Micah Sterling, Watertown, Corresponding Secretary.
A. B. Brayton, Treasurer.
Adriel Ely, Recording Secretary.

Niagara—A meeting was held at Lockport on the 23d of June, at which an Agricultural Society was formed, and the following officers chosen:

WILLIAM PARSONS, President.
John Gould, Jr. & C. H. Shields, Vice Presidents.
Joel McCollum, Lockport, Corresponding Secretary.
W. O. Brown, Treasurer.
D. S. Crandall, Recording Secretary.

Rensselaer—A meeting was held at Troy on the 8th of July, at which an Agricultural Society for this county was organized, a constitution adopted, and the following officers elected for the current year:

JOSEPH HASTINGS, Esq., of Brunswick, President.

Vice Presidents.

Daniel Simmons, Brunswick.	Nathan Brownell, Pittstown.
Geo. P. Dennison, Berlin.	W. Van Vechten, Schaghticoke.
Z. P. Burdick, Grafton.	James Jones, Lansingburgh.
Martinus Lansing, Greenbush.	William Masten, Schodack.
I. A. Fonda, Hoosick.	Henry Conklin, Sandlake.
Jacob Heermance, Nassau.	Claudius Moffitt, Stephentown.
Henry Hull, Petersburgh.	Jonas C. Heart, Troy.

Giles B. Kellogg, Troy, Recording Secretary,
L. Chandler Ball, Hoosick, Corresponding Secretary.
James M. Stevenson, Troy, Treasurer.

Executive Committee.

W. P. VanRensselaer, Greenbush.	John Wheeler, Troy.
George Vail, Troy.	Wm. A. McCulloch, Greenbush.
A. D. Spoor, Brunswick	John Sampson, Troy.
Alex. Walsh, Lansingburgh.	Samuel S. Fowler, Greenbush.

Saratoga—The organization of an Agricultural Society took place on the 24th June. Its Fair is to be held at Ballston on the 1st Tuesday of October. Officers as follows:

HOWELL GARDNER, President.
Calvin Wheeler and Jacob Denton, Vice Presidents.
Archibald Smith, Ballston Spa, Corresponding Secretary.
Hiram E. Howard, Treasurer.
John A. Corey, Recording Secretary.

Meetings are to be held for the formation of Agricultural Societies under the late law as follows:

Columbia—At the court-house in Hudson, August 13, at 1 o'clock, P. M.

Schenectady—At the court-house in Schenectady, August 16, at 2 o'clock, P. M.

Washington—At the house of L. Cottrell in Argyle, August 4, at 11 o'clock, A. M.

Westchester—At the house of S. M. Tompkins in Sing-Sing, August 19, at 10 o'clock, A. M.

Elizabeth City Co. (Va.) Ag. Society.

Extract of a letter from Hampton, (Va.) dated July 17, 1841:—"On the 29th June, an Agricultural Society was organized in this County, styled 'The Agricultural Society of Elizabeth City County, Virginia.' The following gentlemen were elected officers thereof:

ROBERT ARCHER, President.
George Booker & James M. Vaughan, Vice Presidents.
Wm. Massenburg, Treasurer.
M. Fitz Gibbon, Recording Secretary.
A. B. McLean, Hampton, Corresponding Secretary.
George Booker, Robert Archer, John Jones, *Ex. Committee.*

An appropriate address was delivered at the meeting by the President, a copy of which I will obtain and forward you hereafter."

La Porte (Ia.) Ag. Soc.—Mr. Niles' Address.

We have read with pleasure the excellent address of Mr. J. B. Niles, before the Agricultural Society of La Porte, Indiana. It is full of correct feeling, sound sentiments and encouragement to the agriculture of the west. The immense resources of the Ohio and Upper Mississippi Valleys have hardly begun to be developed. Every thing indicates that the climate, the soil, and the seasons have combined to make it the greatest grain and meat growing country on the globe. The obstacles to a market are now fast being overcome, and the continuous stream of flour and pork that is finding its way to New-York, through the Erie Canal, from these very states, which, but a few years since, were a vast wilderness, is the best proof that can be offered of what we may expect when the broad prairies and beautiful uplands of that vast region, shall teem with an industrious agricultural population. We learn from the Michigan City Gazette, that La Porte county, which lies at the S. E. angle of Lake Michigan, contains about 400 square miles, that in 1840, twenty-five thousand acres were in wheat, (the greater part of which was destroyed by an unprecedented blight;) that there is about the same quantity the present season; that many farmers have from 100 to 500 hogs intended for slaughter next fall, and that 20,000 pork barrels have already been engaged; and that in all probability from 30 to 40 thousand barrels of pork will be packed from that county alone.

La Porte, it must be remembered, is but one of the many equally fertile counties of Northern Indiana, and from this fact we may form some estimate of their *present* agricultural wealth and resources.

We should be gratified to extract liberally from Mr. Niles' address, but the following on the circulation of agricultural intelligence, is all we can find room for, and is so just we cannot omit it:

"Every farmer—every man who cultivates even a garden—and who among us does not? should be supplied with an agricultural periodical. Who will not find in such a paper, some single suggestion doubly worth its cost? New discoveries are generally the result of accident, or only of long continued scientific research. When we remember that the human family existed for thousands of years, in utter ignorance of such a fact as the circulation of the blood, is it surprising that men should be inclined to continue in one routine of farming operations, without deviating from the beaten track, for no better reason than that their fathers and neighbors have set them the example. Take a well conducted agricultural paper, and you are no longer limited to your own experience and observation, but you may draw upon the experience of all the world. By the agency of the press, space is annihilated—minds are brought in contact—and whatever discovery, practice or science, may suggest, on either side of the Atlantic, it can immediately be made as useful to you as to the discoverer himself."

ROADS.

In traveling about the country, one cannot avoid having the conclusion forced upon him, that farmers are inattentive to the state of their roads, and from having used bad ones so long, have ceased to be aware of the immense difference there is between transporting a load to market over a good, smooth road, and one which is muddy, sideling, and full of ruts, holes, and gullies. Could their horses, however, be allowed to give an opinion we think they would estimate the difference in their favor between a good road and a bad one, at least one half.

In making roads, the common practice of scraping up the muck or surface earth into a narrow ridge only wide enough for a single wagon, is of necessity a bad one. The track is soon cut down into the soft materials, water is retained, and deep mud and hard roads are the result. If a part of the labor spent in laying up the roads, was employed in covering the track with gravel, there would be better roads and far less labor in repairing.

It is the custom too, in making or repairing roads, to expend all the labor assessed in the several road districts at once, and generally in the early part of the season. June is perhaps the best month for repairing roads, but some labor should be reserved to make any repairs that accident may render necessary. Often after the tax is worked out, a bridge, or some part of a road fails or is damaged, and it too frequently happens it remains so, perhaps for the season: dangerous to every traveler, and a nuisance to the public.

Every district, or nearly every one, is provided with a common earth scraper, but there is another scraper equally if not more essential to good roads, with which few road districts are as yet provided. This scraper is for leveling the surface of the road, cleaning it of all stones, and filling all the ruts made by the wagon wheels. It is made with a stick of timber twelve inches wide, six inches thick, and six feet long; on the front side is secured a bar of iron, falling half an inch below the wood, or, as is frequently the case, a worn out sawmill saw is substituted for the bar. The tongue or neap is put into this scraper in such a manner that it passes in a quartering way over the road, filling the ruts, and throwing out whatever obstructions may exist. The change in ease of travel from a district in which one of these scrapers is owned and used, to one where they are unknown, is as great as from the rough and muddy roads too common in the country to the paved streets of the city.

Ag. Books and Periodicals as Premiums.

We are much gratified to perceive that the suggestion made by us as to the propriety and usefulness of substituting agricultural periodicals and books for the smaller premiums offered at our agricultural fairs, instead of the cash, has been so favorably received and promptly acted upon. We cannot doubt that the best effects will result from the practice. For years, the State Agricultural Society of Rhode-Island, (and perhaps it does at present,) ordered annually several hundred copies of the New-England Farmer, for distribution in the several towns of that state, and experience has proved that the money so employed was most usefully expended. From almost every quarter, in the spirited organizations and preparations making for the fall fairs, we perceive this principle has been engrafted, and with the most auspicious promise. From 10 to 50 volumes of the Cultivator have been offered by many societies; and the La Porte Agricultural Society, which is setting a noble example to the west, has considerably exceeded the latter number. Other valuable journals, and agricultural books, are, we are pleased to perceive, not for gotten.

Butter Dairies.

In a large part of our country, the business of the dairy is now, and must be so hereafter, an important part of the occupation of the farmer, and the best methods of conducting it, are consequently highly deserving attention. Holland has long been famous for its butter, immense quantities of which are made for exportation, and the advanced price it commands in every market, as well as its fine flavor and consistence, shows that its character is deserved, and not the result of accident. In the Journal of the English Agricultural Society, is an article on the Rural Economy of some of the districts of Holland, particularly that of Holstein, in which an instructive account of the Holstein mode of making butter is embodied. From it we shall select a few facts, illustrating their methods of producing such superior butter.

The dairies, which are usually large, varying from 100 to 400 cows, are provided with buildings and accommodations on the same scale, and with particular reference to the intended results. Of these, the milk cellar is the most important, and in the size and site of this the greatest care and skill is shown. Where practicable, it always fronts the north, and in addition, is shaded with rows of trees, and furnished with a projecting roof, in order more effectually to protect the building from the sun. It must always be sufficiently large to contain the produce of four milkings. The floor on which the milk is set is sometimes flagged, but more usually of brick, nicely fitted, and the whole slightly inclined, that no water may lodge on them. This floor is washed and kept with the neatness of a parlor table. In some instances this floor is divided into compartments, with brick or stone ledges three or four inches high, and these compartments, filled with water from a pump, receive the dishes or pans, and preserve them at a temperature that secures the best and greatest amount of cream. The milk cellar is sunk about four feet in the ground, and the height is sixteen or eighteen feet. The windows are numerous, to give a good circulation of air, furnished with shutters and glass sashes, on the inner side of which gauze frames are fixed, to exclude insects when it is necessary for the purpose of air or coolness to remove the sashes.

When cheese as well as butter is made at the dairy, (which is sometimes the case,) the cheese department is never permitted near the butter dairy, "from the vicinity of which every thing is kept removed, which, by any possibility, could exercise a sinister influence on the very susceptible substances of milk and butter, which suffer to a degree, those unaccustomed to observe it, little suspect, from an impure atmosphere." The dairy is managed by women, of whom there is the superintendent, or head dairy woman; and one dairy maid to every eighteen cows. There is beside, the owner, or overseer, and one or more men who attend to the feeding of the swine. There are others, whose business is to attend to the cows, see that they are properly fed, and every thing in its proper place and keeping. The overseer sees that the cows are fully milked, as on this the quantity and excellence of the cream is greatly depending. It has been ascertained by carefully repeated experiments, that the first drawn milk contains five, the second eight, and the fifth seventeen per cent of cream.

The business of the head dairy woman is arduous, and demands a full acquaintance with the various processes. "She must not only thoroughly understand, but accurately observe the precise time when the milk should be creamed; the degree of acidity it must attain in the cream barrels; its temperature, whether requiring the addition of warm water, or cold, to the churn; as well as the all important operations of kneading, beating, salting and packing the butter." The milking

commences at four in the morning, (the milkers rising at three,) in the field, and the milk is conveyed to the dairy by a one horse wagon from hooks, in which large vessels are suspended. To prevent the milk from flying over the brim of these vessels in moving the wagon, thin pieces of wood, of nearly the size of the vessel, float on the milk, and this practice is adopted when pails are carried by the hand.

The effect which vessels made of different materials has on the promoting or retarding the acidity of milk, has received much attention in Holland; and the connection which this process has with electricity has been more fully investigated than elsewhere. The liability of tin to rust renders it objectionable; zinc has scarcely been tried, but fears are entertained that injurious properties will be communicated to the milk; great care is required to keep copper tinned; and the vessels most generally preferred on all accounts, are shallow wooden *keelers*, holding about eight quarts. In some few instances glass vessels are used, and some of the reports speak of them highly. As glass is a nonconductor, it is to be expected the influence of electric causes will be less on glass than most other substances. It has been found that cream, to make first rate butter, must be removed from the milk before the latter gets at all sour, and that the cream will not fully rise under thirty-six hours; to prevent souring before that time, especially in sultry weather, or during thunder storms, requires particular attention to temperature.

A cellar temperature of from 60 to 62 degrees, gives the best and the most cream, the rising being completed in 36 hours; a greater degree of warmth hastens the process, but lessens the quantity of the butter; a lower temperature preserves the milk 48 or 60 hours, but imparts an unpleasant flavor to the cream and butter. The commencement of souring in milk is marked by a slight wrinkling of the cream, and a slightly acid taste. When this appears, whether the milk has stood a longer or shorter time, skimming commences. As fast as it is collected, it is poured through a hair seive kept for this purpose alone, into large barrels of 240 quarts each, in which it remains till the necessary sourness is attained, which in summer usually takes 24 hours, and in winter 36 or 48 hours. During this advance to acidity, the cream is frequently stirred to prevent its coagulating, or becoming cheesy, and when fit for churning, the skill of the dairy woman is required to determine the proper temperature to make good butter. In warm weather the churn is rinsed with the coldest water, and if necessary cold spring water is added to the cream, but if the cellar is properly made, this is rarely necessary. In cold weather the churn is washed in warm water, and is sometimes applied to the cream itself. The churning being completed, the butter is immediately carried to the butter cellar, where in a large tray or trough made of beech or oak highly polished, and provided with a plug at the lower extremity to let off the milk, the butter is slightly worked and salted with the purest salt, molded with a ladle into a mass at the upper end of the trough, and left for some hours to drain. In the evening it is thoroughly kneaded and beat, the dairy maid lifting a piece of 3 or 4 pounds, and slapping it against the trough with great force, to beat out the milky particles. After the whole mass has thus, piece by piece, been freed from the buttermilk, it is again spread out, and receives its full salting, (in all about 1½ ounce of salt to a pound of butter,) which is worked with the utmost care equally through the whole, and is then molded into a compact mass. Butter in Holstein is seldom washed, though in some other parts of Holland it is practiced with the greatest success. When enough is made to fill a cask, the several churnings are once more kneaded and beat thoroughly together, a very little fresh salt is added, and it is then packed in the barrel, which is made of red beech wood, water tight, and previously well washed with water and salt. The cask must be filled at a single packing, each layer pounded down, and care being taken that no interstice is left between the butter and the sides of the cask. This packing of a cask at a time gives the butter of large dairies the advantage over small ones, as it must be left longer exposed to air before the quantity requisite to fill the barrel is obtained.

"The qualities of first rate butter are considered to be 1st, a fine yellow color, neither pale nor orange tinted; 2d, a close, waxy texture, in which extremely minute and *perfectly transparent* beads of brine are perceptible: but if these drops be either large, or in the slightest degree tinged with color, it indicates an imperfect working of the butter; while an entirely dry, tallowy appearance, is equally disapproved; 3d, a fresh, fragrant perfume, and a sweet kernelly taste; 4th, good butter will above all be distinguished by keeping for a considerable time, without acquiring an old, or rancid flavor.

"The quantity of food which can be afforded to the cows during winter, is determined at the beginning of the season, when the harvest returns are known; and in plentiful years the calculation is, that each cow should be allowed three sacks of grain, (generally oats, at 140 pounds the sack,) 3,600 pounds of straw, including bedding or litter for the stable, and 1,800 pounds of hay of good quality; while for every hundred pounds of hay deducted, she must receive twenty-five pounds of grain more, and vice versa."

During the winter the requisite color is given to the butter by some coloring material; and the best for this purpose is found to be a mixture of annatto and turmeric, in the proportion of 5 oz. of the latter to one pound of the former.

The average quantity of milk from the Holstein cows, is about 2,500 quarts per annum; much depending on the food and care; and it is calculated that every 100 pounds of milk will give 3¼ pounds of butter, 6 pounds of fresh cheese, 14 pounds of buttermilk, and 76¼ pounds whey, where cheese is made. Fifteen quarts of milk are considered a fair average for a pound of butter, though sometimes a cow gives milk so rich that 12 quarts make a pound. "On the whole, it is considered a fair return from the Holstein dairies when the produce amounts to 100 pounds of butter and 150 pounds of cheese per annum to each cow."

Letter from an English Correspondent.

BELOW will be found an extract of a letter from JOHN HANNAM, Esq., North Dighton, Yorkshire, which may not be uninteresting to some of our readers. Mr. Hannam, is one of the ablest writers as well as farmers in England, and his contributions to the Quarterly Journal of Agriculture, are always valuable. Of his last communication, (on the proper period of harvesting wheat,) a condensed view is given in the "Work for the Month." In common with the liberal and enlightened of every country, Mr. H. takes a deep interest in the cause of agriculture every where, and his kind expression of good will conveyed to us, will meet with a hearty response from every American farmer.

North Deighton, Wetherby, Yorkshire, April 17, 1841.

GENTLEMEN—Your polite favor came to hand yesterday, for which I beg you will accept my best thanks. That any effort of mine for the spread of agricultural science, should *entitle* me to the notice of those who are devoting their energies to its cultivation in a country so far distant as America, I do not for a moment imagine, and for this reason it is that I feel it *as a compliment*. But it is not as a personal compliment that your communication gives me *greatest* pleasure, nor is it for the sake of bandying unmeaning verbiage (for such is reciprocal "*cawing*" to use the Scotchman's term,) that I lose no time in acknowledging it; but because I regard it as one more evidence of the diffusion of a spirit of citizenship (if I may use the term,) in the cultivation of agricultural science. And, indeed, it is only by an encouragement of this spirit, which regards not the boundaries of nationality, and confines not its exertions to either '*New*' or '*Old*' World, that knowledge can ever be surely promoted, or that agriculture can ever be what it ought, an *universal science*, as perfect in its principles as it is *profitable* in its practice. That it is entitled to consideration as a profitable science, none I think, can deny; for of all sciences it is the only one which can be fairly said to *produce* or *create* wealth. Such, however, it does; and the nation encouraging it is encouraging the very means which will best increase its wealth. That it ever will become as perfect in its principles as it deserves cannot be asserted—we may hope it; that it will, however, become much more so than it is, is certain,—and the most conclusive evidence of this is the spirit of intercommunication and of reciprocal assistance between the agriculturists of different countries, who, *having different soils, climates, and manners, have different opportunities of observing phenomena and recording truths*. But I am speaking enthusiastically. In this cause, however, you will excuse it.

I am glad to observe that you have established a "New-York State Agricultural Society." Of the advantages to flow from it, it is unnecessary for me to dilate to you. Nevertheless, I may say, that in my opinion they will be neither few nor unimportant. In England, these societies are doing much, and they will yet do more:—in what way I have endeavored to show in the "Quarterly Journal of Agriculture" for last month, which you have perhaps seen.

But I augur success to your societies on another ground. The great obstacle to agricultural improvement in England has been an apathetic affection to old plans, and an aversion to modern improvements as "*new fangled notions*." This feeling you have not to contend with. A great proportion of American farmers, especially those who have emigrated from Europe, have no hereditary prejudices:—they are men who have some Quixotic spirit in them—they have broken from the beaten path of their fathers—have risked their all in a country, to the climate, customs and soil of which they were strangers, and they are, therefore, ready to seize upon every information and to test every system which will increase their knowledge or improve their farms. Or, to speak plainly, they come as *strangers*, feel that they *are ignorant*, and are not above receiving instruction from any source. In England, very often, men inherit the farms upon which they were born, and with the property of the parent inherit, too, his prejudices. To them these prejudices are proverbs, and they practice them in spite of all the opposition that modern science can make. Education, however, is fast dispelling this cloud which has so long darkened the horizon. Even now, in Scotland, and the North of England, it is no bigger than a man's hand.

I cannot conclude without saying a word on the 'Cultivator.' Till its arrival, I had no idea that the American farmers could boast of such a journal—for, with all our advantages, I must say that we cannot show a journal likely to be so PRACTICALLY useful. Our journals may be, and are highly useful, but then their price, and the high tone in which they are written, confine them amongst the educated farmers who least require their aid. Was there a journal established here, and conducted in the *practical manner* that the Cultivator is, *and at the same moderate charge*, I have no more doubt of its complete success than I have of its usefulness amongst that class of farmers who require enticing to "adopt" improvements.

I have written at length, (and probably not intelligibly,) for I must say (and I am not ashamed that it is so,) my zeal in the cause of agriculture is greater than my ability. As brother laborers, however, in the same field, I know you will excuse my prolixity, and believe me to be, gentlemen,

Your obliged servant,

Eds. Cultivator. JOHN HANNAM.

Watering Plants.

"Watering out-door crops is frequently recommended during dry weather; but it should be avoided as long as is possible, as the benefit of artificial watering is out temporary, and it has the effect of exciting the roots, thereby rendering them more liable to suffer when the water has evaporated."—*English Farmer's Journal.*

Every gardener or others who have watered plants, will, it is believed, assent to the justness of the above remarks. As plants are usually watered, there can be little doubt the application does as much hurt as good. In a shower of rain the whole atmosphere is saturated with vapor, the sky is clouded, and the water on the plants is not immediately carried off by evaporation. When plants are watered, it should be done on the approach of evening, that evaporation may be less active, and the water used should be either rain water or water which has stood for some time in the sun, until the temperature is that of summer showers. Frequently moving the earth around plants, will prevent for a considerable time the necessity of watering, as is seen in the case of corn that is hoed resisting the effects of drouth much longer than that which has not been so treated.

The Wheat Crop.

THE following is an extract of a letter from Gen. R. HARMON, Jr., of Wheatland, one of the best wheat towns, as Gen. H. is one of the best farmers, of Western New-York. As some of our readers may wish to obtain seed wheat from that section of the state, we would inform them that they may obtain a superior article by applying to Gen. H.

"Wheatland, N. Y., July 17, 1841.

"As there is much anxiety on the coming harvest of the great staple of Western New-York, I will venture to give my views. In March, when the snows went off, wheat looked as well as common, if not better; the month of April, and the first half of May, was wet and cold, so much so that wheat grew but very little; from the middle of May till the last of June, we had no rain; the weather was uncommonly warm and dry; but for the last three weeks we have had frequent showers. When the hot and dry weather commenced, wheat started rapidly and began to shoot up the stalk before it had spread but little, which has reduced the number of heads from each stool from one-fourth to one-third less than the common number, and the drouth was so severe that some of the stalks seemed to dwindle and nearly perish; but when the rain came on, they revived, and have put forth heads, so that it is ripening more uneven than I have ever known it. If the rust does not affect it, it will ripen more rapidly and give a smaller berry than usual. It is feared, however, it will not escape the rust. Wheat ripening after the 20th of July, is very subject to be affected by the rust, and there will be but little that will be fit to cut by that time. Some of the most forward is now out of danger from rust. To take the most favorable side, we cannot have more than three-fourths of a crop.

"The wheat worm has not made its appearance this season. The fly or insect, has done more injury this season than common. I have some white May Virginia wheat that I commenced cutting on the 15th; it has been injured more by the drouth than the white Flint. The Tuscan with me has not sustained itself through the winter as well as the Flint or the white Virginia. I have several kinds of foreign wheat under cultivation; all of them have been injured by the winter except the white Florence from France. It is doubtful whether we can succeed in this latitude with the celebrated varieties of foreign wheat; they may, however, become acclimated and prove valuable. I shall continue to test several of the most approved kinds."

The Toad.

"WHAT is the use of toads?" is a question we heard asked the other day, with an air of triumph which indicated they were animals of which nothing good could be said. We do not think so, for though not to be classed among the most beautiful of animals, the toad has certainly many redeeming qualities, and which should save him from wholesale condemnation. In the first place he has the most beautiful eyes in the world, (were it not that the charge of partiality might be preferred we would except those of some half a dozen of our lady friends;) and in the second place he has a wonderful facility of stowing away, in that carbuncled body of his, all ants, flies, worms, bugs, &c. that may come in his way, during feeding hours. He does not eat the less because people rarely see him eat, and he clearly prefers flesh to saw-dust or bran bread. The tongue of the toad is a curious contrivance. It is long, attached to the fore part of the lower jaw, and folds back upon the opening of the throat. When the toad approaches a worm or other insect, there is a slight motion or nod of the head and the insect disappears. The tongue has been thrown forward, and the insect adhering to its surface is swallowed instanter. That he "sucks poison out of the earth," is a fable to be classed with the influence of the moon, or the doctrine of transmutation; yet as he certainly does good service as a destroyer of insects, he deserves all reasonable protection.

Old Lime Plaster on Wheat.

A writer in the Farmer's Gazette says he sowed two pieces of spring wheat after brining and rolling the seed in slaked lime. On one of these fields he sowed or spread a number of loads of old plaster from the walls of old houses, and harrowed it in with the seed. Both fields were entirely free from smut, which that year was generally ruinous to wheat; but the wheat of the field where no lime was used, (except for rolling the seed,) was badly shrunk; while that which grew on the field, well sprinkled with old plaster, was *good, sound, plump* wheat.

CULTURE OF POTATOES.—In earthing up potatoes, the soil should encroach as little as possible on the foliage when the latter is in a young state; but as the young stems advance in growth, and more foliage is produced, the loss of the few lower leaves that may be smothered by a full earthing up, will not prove injurious; they are, in fact, the first that suffer natural decay. Earthing up is in all cases advantageous; but more especially as regards the larger varieties. The sides of the hills or ridges should be convex, rather than concave or straight, because the latter forms afford but little earth at top in which tubers can form.—*Lon. Farm. Jour.*

BROKEN WIND IN HORSES.—A great number of dissections have proved that the cause of this disease is a rupture of the air vessels in the lungs. The difficulty of breathing which some persons experience after unusual or prolonged effort, would seem to arise from the same cause, and there is some reason to think that the disease may be hereditary. This is an important suggestion, so far as the human race is concerned.

"Dr. Jackson found that of 28 persons affected with this rupture of the air cells, 18 were the offspring of parents (father or mother,) affected with the same disease, and that several of them had died from this cause. In some instances the brothers and sisters of these persons were similarly affected. On the other hand of 30 persons unaffected with the disease, three only were the offspring of parents who had suffered from it; whence it follows that rupture of the air cells of the lungs is frequently a hereditary disease; a fact important to man and horse, as all events to the breeder of the latter.—*Medico-Chirurgical Rev.*

DICTIONARY OF TERMS

Used in Agriculture and its Kindred Sciences.

GARDEN. Gardens are of several kinds, as the vegetable, fruit and flower garden, and to all who have them are an object of interest and generally of utility. The soil of the garden, if not naturally deep, must be made so by digging or deep plowing, that the roots of all the plants cultivated may have ample room to seek their required sustenance; and it must be kept rich by frequent manurings with clean manures, such as are free from the seeds of all weeds, or what is perhaps still better, with compost manures. It is a common practice to have the fruit and vegetable garden united, or to have fruit trees planted in the garden; but where there is no necessity for this, arising from a limited supply of land, the gardens will both do much better to be kept separate. The vegetable garden is an important appendage to every farm, and if well managed, is a farm in miniature, showing what a whole farm might be, and should be made, and the enormous profits that would arise from a farm so cultivated.

Flower gardens are delightful, and when well arranged are the source of much innocent pleasure, as well as valuable instruction. Art has done much in the flower garden to overcome the obstacles presented by climate to the production of the beautiful tropical plants, and sometimes at an expense to which the utility would seem disproportionate. An idea of the expenses of some of the European royal gardens (and many private ones are not much inferior) may be inferred from the fact that in the garden of Schonnbruen at Vienna, there are several ranges of glass houses, one 270 feet long and 30 feet high, another 300 feet long and of the same height, and three ranges of less height, each 240 feet long. In the garden founded by the Emperor Alexander, on an island in the Neva at St. Petersburg, there are 3624 feet of such buildings, forming a double parallelogram, the principal sides of which are 700 feet long, and from 20 to 30 feet wide, and the middle range is 40 feet high. In these gardens are to be found plants from all climates and countries, arctic and tropic, flourishing and full of fruits and flowers as in their native climes.

The products of a single acre of garden in the vicinity of London, are thus stated by Mr. Middleton from the gardener himself. "Radishes 10*l.*; cauliflower, 60*l.*; cabbages, 30*l.*; celery, (first crop,) 50*l.*; (second crop) 40*l.*; endive, 30*l.*; making a total of 220*l.*, for the produce of an acre in a twelve month." Market gardening is found very profitable in this country, and has of late received considerable attention, though perhaps less than it deserves.

GARGET. A disorder that attacks the udders of cows, particularly young ones after their first calving, or when they are in a high condition, and in full milk. The internal substance of the udder becomes inflamed, usually in one quarter at first, but it often extends to the whole; the bag becomes hot and tender, feels knotty and hard; the milk coagulates and is drawn off in thick masses, or strings; and there is always more or less fever. The disease if not checked, frequently becomes serious, suppuration of the glandular swellings takes place, and the animal is either wholly or partially lost for the purpose of milking. The natural remedy appears to be, to put the calf to the cow, that it may suck and butt the udder about at pleasure; if the calf should not be able to draw the milk fully, it must be done by hand, and two or three times a day, which will usually effect a cure. The cure most generally resorted to by farmers, (and it is very effectual,) is to take the roots of poke weed, *Phytolacca decandra*, cut it into thin slices or pieces, and give it to the cow in a pail of bran, or other mash. One or two repetitions generally effects a cure, operating by dispersing the glandular enlargements. If the disease does not yield at once to ordinary treatment, recourse should be had to more powerful remedies, such as the camphorated mercurial ointment, (rub down an ounce of camphor, having poured a tea spoonful of spirits of wine upon it, and an ounce of mercurial ointment, and half a pound of elder ointment, and incorporate them well together,) which is to be applied after milking, and the bag well washed in warm water before the next milking: or in case the knotty masses do not yield to this, iodine may be used, which often has an excellent effect in glandular enlargements. Iodine should be applied externally in the shape of an ointment, made by incorporating one part of the hydriodate of potash with seven parts of lard, one or two drams of which may be rubbed into the diseased portions of the bag, morning and evening. Hydriodate may be given at the same time, internally, in doses of from six to twelve grains, daily. Too large doses of iodine are apt to reduce the size of the udder itself, and thus reduce the capacity for milk; otherwise no bad effect has been known to ensue from its use in such cases, and it has proved to be a very valuable medicine.

GAS. This name is applied by chemists to those fluids that partly resemble common air, yet differ from it in their qualities, and have never been made solid. There are a great variety of these; but those which, after oxygen, are of the most use, and in agriculture have the greatest effect, are those of Carbon and Ammonia. Carbonic gas is composed of 27.36 parts carbon, and 72.64 parts oxygen. Ammonical gas, of 75 parts of hydrogen and 25 parts of azote or nitrogen. Carbonic gas furnishes to plants the carbon which constitutes their stems or trunks, and is constantly absorbed and decomposed by the leaves of plants; the carbon is retained for the use of the plant, while the oxygen is thrown off to restore to the air that which is lost by the respiration of the millions of vitally organized beings that breathe on the surface of the earth. Ammonia is an alkali, volatile, and commonly known in some of its combinations as salts of ammonia, or when combined with a fluid, as spirits of hartshorn. This gas or its salts have a highly exciting power on plants, and constitute one of the most essential ingredients in animal manures. When stable manures ferment too highly, this gas is volatilized and driven off, as the pungent odor arising from the manure proves, and is thus mainly lost to plants where the dung is applied. This may be remedied by making the compost heap of layers of manure, earth, swamp muck, or any substance that will absorb and retain the gases that may be developed during fermentation, as well as the fluids that drain from the manure while undergoing the process of conversion into compost.

GATE. One of the greatest aids to good husbandry is found in fields well fenced, with easy and safe means of communication between them. These are usually Gates, or Bars, and if not in every case, certainly in every one where a frequent ingress or egress is desired, the gate is far preferable to bars. It is much easier and quicker to open a gate, than to take down and put up a pair of bars; and where a gate is daily used, the saving in time, will, in the course of a year, amount to nearly the cost of the gate. When well made, and properly provided with hooks, or latches, they are much less liable to be opened by restless or unruly animals. The posts of gates should be large and firm; made of durable timber and set deep in the ground, so that frost shall have no action upon them. Iron hinges are better than wood for hanging gates; and as all gates are apt to settle more or less, which prevents their shutting easily, or at all, precaution at the time of hanging should be made against this evil. There are two ways of doing this: one to have the iron hinge or strap at the top of the gate made notched and secured with screw bolts, so that if the gate settles, by unscrewing the bolts the gate may be lifted as much as required, and then secured, by tightening the bolt in another notch of the hinge strap. In the other, the bolt on which the hook of the upper hinge is made, may pass through the top part of the post to which the gate is hung, and a screw nut turning on this bolt will fix the gate at any place desired. White oak timber is the best material for farm gates, as they can be made strong, without being clumsy and unwieldly. Generally speaking, the larger a post is, whether for gates or bars, the firmer it will stand and the longer it will last. We have a white cedar post on the farm which has stood thirty-six years, and promises to endure many years longer; it is about twelve inches in diameter.

GELATINE. When any part of an animal, (with the exception of pure fat) is boiled in water, two products result: one, quivering when cold, soluble in water, and called jelly; the other insoluble, and made harder by boiling; the first is Gelatine, the last Albumen. The skin, horn, &c. is nearly pure gelatine, the white of an egg albumen. Gelatine is one of the most powerful and valuable of manures, being supposed by Chaptal to act both as a stimulant and a nutritive substance. It is principally used in the shape of bone dust, though in many parts of the world it is used extensively in the form of flesh, as where fish are used for manuring. Bones are better than flesh, as they contain phosphate of lime, a substance that greatly aids the action of the gelatine. Bones usually contain about equal quantities of phosphate and gelatine; the bones of the ox have from 50 to 55 per cent of gelatine; those of the horse from 36 to 40; and those of the hog from 48 to 50 per cent. The bones that are the hardest, have the least gelatine, and those of young animals more than those from older ones. Bones intended for grinding, should not be boiled as they sometimes are in cities, to extract the fat and gelatine for soap, as it lessens their value for agricultural purposes. Bones should be ground fine, and if allowed to ferment so as to have the pungent ammoniacal odor appear, their action will be more prompt than otherwise. Bone dust is best applied to roots sown in furrows, and deposited at the same time with the seeds.

GEMMIPAROUS. The imperceptible atoms from which organic beings take their origin, are called *germs*. The multiplication of the species by buds, is called *gemmiparous reproduction*, and is shown on a large scale in vegetables. Vegetable germs are of two kinds, those which produce stems and those which produce roots. Both may be evolved from almost every part of a plant, and whether the germ shall give out a stem or a root seems to be depending on the position in which it is placed. Thus if a willow be reversed in planting, the top put in the earth and the root in the air, the germs which, in the common mode of planting would have become stems, will now be roots, and the root germs will throw out branches. Some plants form their germs on the margin of their leaves, and these buds as they are developed, gradually detach themselves from the parent, and become distinct and perfect plants.

The minute round leaf which sometimes renders the stagnant pool green, is a curious instance of this gemmiparous production. This plant (*Lemna*) has no attaching roots, but floats a green speck on the surface. From the margin of the leaf it casts off its progeny of buds, and in their rapidity of multiplication, this plant is only equalled by the Aphis among insects. A striking analogy to this mode of production is found among insects in the *Hydra*, one of the lowest of the Zoophytes. When the young of this animal is first visible, it appears like a bud rising from the surface of the parent Hydra. It remains for some time attached, and derives its nutritive and mechanical support from its mother, but gradually puts forth its tentacula or feelers, and is able to catch and swallow its prey. The tube which attaches it to the parent, and through which it has received its food, now closes, becomes smaller, and finally breaks, and as in the case of the young *lemna*, the hydra floats away a perfect animal.

GEOLOGY. Geology, as applied to agriculture, is a very important, though a comparatively new science. Reason would tell us that by a knowledge of the materials from which the soils we cultivate are composed, we should learn much information of their texture and qualities, and their suitableness for the various plants to which the different kinds of earth or their combinations have been found most suitable; yet such knowledge has never until lately been made available. The character of any country for the purposes of agriculture is mainly determined by that of the rocks on which it is based, or the course of the currents which have flowed over it. Where the necessary constituents of a soil are so proportioned by their geological position that none are in excess, or none wanting, we may be sure, other things being favorable, that the soil will be suitable for cultivation, and fertile. If, however, owing to geological position, one of the earths greatly predominate, be it lime, or alumina, or silica, we cannot expect the soil to be as good as when better proportioned in its elements. Land rarely suffers from excess of lime, even on purely limestone strata; but such is not the case where alumine or silex, clay or sand, prevail. In the one case the soil will be heavy, retentive of moisture, and hard to cultivate; in the other the soil will be porous, manures will infiltrate or sink beyond the reach of the plant, and be very liable to suffer from drouth, but easy to cultivate. Proportion then is necessary, and a knowledge of the geological structure will aid us materially in determining this point. Perhaps there is no part of the world more favorably situated for the investigation of agricultural geology than Western New-York, as the whole series from the primitive or crystalized rocks, up to the coal series, through all the gradations of granite, gneiss, limestone, shales, sandstones, and their various repetitions, is there fully shown, as well as the course and effects of the currents which have acted on the earth's surface, and so essentially modified the masses which now cover the rocky base of our soils. Fossil geology is one of the most interesting sciences of the age, as doing much to illustrate the previous conditions of our planet, and determine the changes so vitally affecting plants and animals. It is hardly possible to conceive a subject or sight better calculated to interest, than a collection of these remains of animal and vegetable life, called up from ages long anterior to the time when the earth had become fit for the residence of man, and exhibiting forms and structures to which the present races of organized beings afford no parallel.

GERMINATION. "The first growth of a seed, the act by which it exchanges the condition of an embryo, for that of a young plant." In germination, the embryo unfolds, breaks through the integument of the seed, and acquires a vascular, tubular, and cellular organization. To accomplish this, heat, moisture, and a supply of oxygen are required. Heat and moisture are necessary to dissolve the substances contained in the cells of the embryo, and oxygen furnishes the means of respiration. Sugar forms in the seed, and carbonic gas is formed so long as the young plant is in darkness, but on reaching the light, this gas is decomposed, oxygen is liberated, and the plant becomes green. Germination is now accomplished. Temperature has a great effect upon germination. Thus, Dr. Plumer found that the Lima bean, at the temperature of 88° (in the shade,) appeared above ground in seven days, while at a temperature of 62° it did not appear under twenty days. The marrowfat pea at 51° required nineteen days to germinate; while at 74° it took only eleven days. Radishes varied with the temperature, from six to twelve days. Exposing seeds, placed in a moist earth and proper temperature, to an electric current, accelerates their germination wonderfully; and crops of cress for the table, have in this way been grown in a few hours. A low temperature, and too much moisture is as unfavorable to germination, as too great heat and continued dryness; in the one case the seed rots; in the other it is dried or burned up. Farmers frequently err, by putting their seeds in the earth under unfavorable circumstances for germination; if too wet or cold, and the seed finally germinates, a feeble, sickly plant is produced; if too dry it does not germinate at all. In 1838, large quantities of land in Western New-York had to be re-sown, from the latter cause, the first sowing being destroyed by the extreme heat and drouth.

GESTATION. The time that animals go with young is called their period of gestation; and this, as is well known, differs materially among the several kinds domesticated by man. Thus, the period of gestation in the mare is about 330 days; that of the cow 280 days; that of the sheep 154 days; and that of the hog 114 days. A most extensive series of experiments on the period of gestation has been made at the governmental farms of France, and on the farm of Lord Spencer in England. From these it appears that in the case of

the mare and the cow, very great deviations from the average time occurred, amounting in the extreme to nearly two months. In the case of sheep and swine, the deviation was less, but still considerable. The times stated above are the averages of the whole; and will probably be found as nearly correct a guide for the breeder of these animals as the circumstances will admit.

WORK FOR THE MONTH.

Stacks and Barns.

A large proportion of our farmers make their hay in July, but still much hay is made in August, and it is a good plan for those who have already completed their hay harvest, to examine their stacks and barns, and see that all is right with them. There is always more or less warm air generated in a barn filled with new hay, and unless this air, which rises to the highest part of the building, is permitted to escape freely, it accumulates and adds to the danger of the hay suffering from heating improperly. Small windows in the gables of barns, to be removed while the barns are filling, and replaced when the heating process of the hay or grain is over, are to be preferred to holes cut in the boarding, as these admit the entrance of birds and vermin, both of which should be excluded from such buildings. The making a good stack, one which shall retain its place perfectly, one which shall turn all moisture, and preserve the great body of the contents as safely as in a barn, is a task which few farmers understand, or are able to perform successfully. It does not look workmanlike to see a stack of hay or grain with as many rails placed around it for braces as there are points to the compass, each lifting, as the stack settles, a part of the outside, and turning the water as it falls, into the stack, instead of conducting it down the outside. A little more care would remedy this evil, and make the hay or grain in the stack as safe from the weather as that in the barn.

Harvesting Wheat.

In our latitude, as haying is the great business of July, harvesting is the most important labor of August, and one which requires the utmost attention of the farmer. Such an extent of latitude does our country embrace, that harvesting of wheat lasts from June till September, commencing in Georgia in the first named month, and ending in the Northern States in the last named one. Four-fifths of the wheat grown in the United States is, however, cut in the months of July and August, and much the greatest proportion is harvested in August. The period of harvesting grain of all kinds, is much influenced by the time of sowing; other things being equal, early sown grain always coming to maturity soonest, and being also generally much less liable to the attacks of insects, disease, &c. The heat of the climate and the impossibility of preserving wheat from the attack of the weevil when stored in granaries, obliges the southern farmer to harvest his wheat, and thrash and dispose of it as soon as possible. Hence southern wheat and flour is always found in the northern markets, long before the harvest here is closed, or, perhaps, even commenced.

Proper Time of Cutting Wheat.

The period of maturity most proper in every respect for the cutting of wheat has long been a subject of discussion. So long as wheat was thrashed by hand, it was found necessary to let it ripen fully, or the loss in thrashing would exceed the gain from any other source; but since machines have been generally introduced, this difficulty has passed away, and the question placed on other grounds. It is now, how does early cutting affect the weight and quantity of grain and the quality of flour, as compared with that harvested at a later period? Many experiments have been made to test and settle this matter, but the best and most satisfactory we have seen, are those detailed in the last No. of the Q. J. of Agriculture, made by Mr. HANNAM, of Yorkshire, an intelligent and able farmer. Mr. Hannam selected for his experiment a field of the *old square headed red wheat*, and on the 4th of August, 1840, cut a sheaf. Both straw and ears were green and full of sap. The grain was perfectly formed, but the chaff adhered firmly to it, and it was so soft and full of milk, that the slighest pressure reduced the whole to a pulp. This sheaf stood in the field a fortnight, when it was housed, and the same day, August 18th, another cut. In this the wheat was not ripe, but what is called '*raw*.' The straw for a foot from the ground was yellow, and above that, though to appearance green, still was turning yellow. The grain, though still soft and mashed easily, was not near so full of fluid or milk as before. At the end of a fortnight this sheaf was housed, and September 1, or the same day, another was cut. This last sheaf was ripe, the straw uniformly yellow, but not so ripe as to have the heads break, or grain fall out, and at the end of a fortnight this was also housed. Each sheaf was carefully preserved, and finally thrashed and the chaff separated, by itself. The gross weight was ascertained by an accurate balance, as was that of a fixed measure, and an equal number of the grains. The result was as follows, the experiment of weighing being several times repeated to prevent error:

Time of cutting.	Gross produce.	Equal measure.	Equal No. of grains.
Aug. 4th, (very green,)	576	568	19¾
Aug. 18th, (raw,)	736	680	23¾
Sept. 1, (ripe,)	650	570	22¾

100 straws of an equal length were then selected from each of the bundles, and weighed as follows:

Green,	550
Raw,	478
Ripe,	450

To ascertain the actual value of each quality, samples of each were exhibited to an extensive wheat grower, and then put into the hands of a factor and miller, to know what they would give. The opinion of the grower and the miller was as below:

	Value per quarter by the wheat grower.	Value per quarter by the miller.
Green,	61s.	61s.
Raw,	64s.	63s.
Ripe,	62s.	62s.

It appears from these experiments that the "raw" wheat had the advantage over the "ripe" in every respect—

1st, weight of gross produce,	13 1-5	per cent.
2d, do. equal measure,	4	" "
3d, do. equal number of grains,	2 1-5	" "
4th, in quality and value,	3½	" "
5th, in weight of straw,	5	" "

The "ripe" had the advantage over the "green" in every respect but that of the straw, in which the green had an advantage of 22 per cent.

Mr. Hannam estimates the comparative value of the wheat crop on an acre of each kind as follows:

Green,	£11 11 10
Raw,	13 7 3
Ripe,	12 17 3

Our readers will judge of these experiments for themselves; but we must add, there are other considerations of great weight in favor of cutting wheat before it is "dead ripe." These are, more time for securing the crop; less waste in harvesting from the shelling of the grain; and a better quality of straw, a thing of no small consequence where it is as extensively used for feeding stock, as in our wheat growing districts. It is also the opinion of millers, we believe universally, that early cut grain makes far better flour than that which becomes fully ripe before cutting. It is probable the same facts would hold good of barley, rye, oats, &c., and it would seem desirable that farmers should ascertain these points, as small profits, or small losses, in the aggregate, are the things that make, or ruin, the cultivator of the soil.

There is a great waste by many in harvesting grain from using bad implements, not paying attention to putting it up properly in the field when cut, and performing all parts of the work in a slovenly and unfarmerlike manner. There is a vast deal of wheat and other grain, put into the barn or stack after rains, or before the straw or green matters the sheaves may contain are cured, in such a state that the central parts of the sheaf heat, mold, and become nearly rotten. The result is bad wheat, musty and poor flour, all which might be avoided by care in the several processes through which the crop passes.

Preparation of Seed Wheat.

The time to procure pure seed for fall sowing, is to make your calculations as to kind, quantity, &c., before your wheat is ripe, and then from your field select a part that will yield what you wish, and by repeated careful examination, free it from every thing that is not wheat. Wheat may be made pure in this way much more certainly than in any other, and we know many farmers who find their account in this method, not only from the almost perfect immunity it gives them from weeds, but in their sales of seed wheat at higher rates, owing to the superiority of the article. No seed is fit to sow that has been injured by heat in the stack or mow. The injury may be but partial, still the young plant will feel the effect, or it may prevent the growing of the grain altogether. We believe that it may be considered a settled point, that all seeds should be thoroughly matured to give perfect vigorous plants, and that a neglect of this, will always produce loss to the farmer. We have known two ways which have been adopted successfully to procure the best of the wheat for seed, and as the trouble is not great, farmers who use but small quantities of seed may find their account in trying one or the other. The first is what is called *casting the seed*. In this method, the farmer casts his wheat, a handful at a time, some thirty feet, or the length of his barn flour, and that which goes the farthest, being of course the plumpest and heaviest, is to be reserved for seed. In the second method, the sheaves of ripe wheat are struck across a barrel or log, something in the manner of threshing flax, rather lightly, and as none but the ripest and best wheat will in this way be shelled, it gives a good seed. There is too little attention paid to seed wheat generally, the best not being selected, or its tendency in the hands of the ordinary farmer to degenerate, not being counteracted by change of seed.

Weeds in Pastures.

Some farmers seem to suppose that if they keep the weeds subdued in the growing crops, they have performed wonders, (and too many have reason to congratulate themselves if they do this,) while all kinds of nuisances in the shape of weeds disfigure and overrun their pastures. But thistles, milkweed, everlasting, john's-wort, sweet elder, &c. flourish undisturbed, and fill the earth with seeds or roots in readiness to spread and grow whenever the earth is moved for their reception. No plant not wanted on a farm, or not required in a course of cultivation, should ever be allowed to perfect its seeds on any part of it; if they are, the farmer will find to his sorrow, that he has suffered an enemy to steal a march upon him, one which it may require much time and labor to subdue. Allow, then, nothing to go to seed on your farm you do not mean to cultivate; dig them up root and branch, or if this is not practicable, take your sythe and cut them at once. Don't wait for the moon or for signs; but what it is necessary to do, do it without delay.

Saving of Seeds.

As far as possible, every farmer should save his own seeds. If he is careful and selects none but the best, if he gathers them at the proper time, he is more sure of their kind and quality than if he purchases, or, as is too frequently the case, begs them, and is, of course, less liable to failures and disappointment in his crops. There are many small seeds, such as are wanted for the garden, herbs, roots, vegetables, flowers, &c. which should be saved as they ripen, and are nearly always wanted and welcome when the seasons come round. No vegetable or plant should be selected, or planted out for seed, that is not of the best quality, as it costs no more to raise seed from a good plant than an inferior one.

Inoculation.

Cherries, plums and pears may be inoculated or budded with success in this month, unless, as in some instances may be the case, the trees are too far advanced. This may easily be ascertained by examination, and it must be remembered, that the later in the season this operation is performed, if the bark will but peel, the more certain will be the growth of the inserted bud. Inoculation is one of the easiest and best methods of improving fruits, particularly some that will not readily bear grafting, and should be practiced by every farmer and orchardist whose fruit is not of the best varieties.

Early Sowing of Wheat.

We do not approve, as a general rule, of sowing wheat in August. There is usually too great a heat in the ground for it to vegetate *freely* and *quickly*, which is essential to the perfection of any plant, and if the sowing is followed by a drouth, a large part of the seed will never grow at all. The wheat plant is one which at no period of its growth requires or can endure a high temperature, and should the seed sown in August even sprout, the extreme heat and dryness frequently experienced in the month, will be unfavorable to its vigorous growth. Where much land is, however, to be sown, it may be advisable, or even necessary, to begin earlier than would be justifiable under other circumstances. We consider seed put in by the middle of September, more certain of succeeding than if sown by the middle of August; later than the middle of September, the probability of a good crop grows constantly weaker. Exceptions to this rule, arising from the peculiarities of the soil, weather, &c. may occur, but the experience of the best wheat growers will confirm its general correctness.

Weeds in Corn.

Farmers generally hoe their corn some two or three times in July, and then it is left for the season. Now, as corn and some other hoed crops are frequently cultivated for the purpose of cleansing the land and fitting it for other crops, it is well where weeds exist to look over the corn during this month, and either pull by hand or cut with the hoe, such weeds as may have escaped previous hoeings, or sprung up afterwards. If allowed to grow and go to seed now, much of the advantage expected from the cultivation of the hoed crop will be lost, and the succeeding crop of spring grain materially diminished in value. As cleansing crops, hoed ones are excellent; but to experience their full value, the soil throughout the season must be kept clean. Better not plant and hoe as much, than to not more than half perform what is undertaken.

Selling Stock.

The drover and butcher will now make frequent calls upon you, and if you have any extra nice animals, any sleek and smooth cattle, any lots of fat wethers or ewes, or good lambs, they will, with your permission, be sure to select these, and leave the raw-boned and hard to keep, the small, poor, and inferior on your hands. They are not to blame for this, for in doing this, they doubtless consult their own interest; but the farmer who allows it, much mistakes his interest, as no extra price will compensate the loss that is sure to ensue where this course is followed. Unless you have animals that will be no better for keeping, and some that you wish to sell, you had better make your own selections, and sell at moderate prices. You can in this way be constantly improving, instead of running your stock down, and it would be well for the farmer to remember that choice animals are always sure of a sale at fair prices.

INFLUENCE OF THE STOCK ON THE CION.—It has been a disputed point among orchardists and fruit growers, whether the stock produced any sensible effect on the fruit in grafting. The Perth Courier gives the result of an experiment in preventing the attack of the aphis or bug on the apple. Mr. M'Hardy having observed that this insect never infested the Jargonelle pear conceived that the apple might be saved by grafting on that stock. Four years since he grafted the Ribstone Pippin on this pear, and the experiment has been completely successful; the fruit being improved in size and flavor, and perfectly secure from the bug.

ORIGINAL COMMUNICATIONS.

"In Agriculture, EXPERIENCE is of great value—THEORIES of little, excepting as they are directly deducible from actual experiments and well attested facts."

INTERESTING LETTERS.

We are indebted to the REV. DR. SPRAGUE of this city, for copies of two letters, one on the origin and history of Indian corn, written by T. PICKERING, Esq. to S. M. HOPKINS, Esq., and the other on the prevention of the caterpillar and canker worm, by H. MARCHANT, Esq. They will no doubt be interesting to our readers. We must beg leave to dissent from the opinion advanced by Mr. PICKERING, that corn was indigenous in China, for the following reasons:—1st. There is not a particle of evidence that *Zea mays*, Indian corn, was known in any European country till after its introduction from America; this fact is admitted by all. 2d. There is no reason to suppose, had corn been indigenous and of general cultivation in China, that it would not have, long before the discovery of America, found its way to the west of Europe, as other plants and fabrics, clearly of Asiatic origin, certainly did; for instance, silk and rice. As soon as it was introduced into Europe, after the discovery of America, it made the circuit of the Eastern continents with astonishing rapidity, and, wherever it can be cultivated, across the continents of Europe and Asia, from France to China, has become a general favorite. 3d. The universal and rapid spread of Indian corn through Europe and Asia has a parallel in the introduction and spread of the cereal grains in this country from the old world. We gave Europe and Asia corn and potatoes; they furnished America with wheat, barley, and oats. And after a lapse of 200 years, it is no more strange to find corn in China, than wheat in Wiskonsan or at Bogota.

Origin and History of Indian Corn.

Salem, September 3d, 1824.

DEAR SIR—I have just received your letter of the 28th ult. requesting information concerning *maize*, or Indian corn, its history, culture, properties, &c. As your call is expressive of *urgency*, I lose no time in communicating what little I know, corresponding with your inquiries, and just as my recollection serves me.

Formerly, I supposed that maize was not only indigenous, but exclusively an American plant; and that from the new, it was carried to the old world—at least to Europe. I retained this opinion until, in reading Sir George Staunton's account of Lord Macartney's embassy to China, I found it was extensively cultivated in the northern parts of that vast empire. As they ascendend the Yellow River, and approached the region of Pekin, Sir George says they saw immense fields of Indian corn. But I do not recollect that he specifies any variety. The first thought which then occurred was, that on the supposition that America was peopled by emigrants from the eastern coasts of Asia, they carried the grains of maize with them. But why may we not suppose this plant to be indigenous in both worlds? especially when we consider its numerous varieties. Had maize been found in the vicinity of the only Chinese port frequented by European and American ships, (*Canton*) we might imagine it was carried thither in those ships. You ask,

"Was it known to the ancients!" This is a question for an antiquarian, or a learned naturalist, to answer. I can only say that, a few years ago, in turning over the leaves of two octavo volumes, written, perhaps fifty or more years ago, by a Reverend Mr. Dixon, of Scotland, (I forget his christian name) in which he professes to transcribe from all the Roman rustic writers, every thing valuable or curious in the husbandry of that nation, (his extracts are accompanied with a translation) and in which are described all the species of farinaceous plants which they cultivated, I found nothing that bore any similitude to maize.

Now that I am in the country of the Romans, I will stop to mention, (what, however, you may know better than I,) that maize is extensively cultivated in Italy. From one statement which fell in my way within two or three years past, it appeared that in Tuscany, they raised more bushels of maize than of wheat, and in the travels of M. Chateauvieux, (a Genevan) written in the form (I think) of letters, some fifteen or more years ago, it appeared, that in the minute farms (five or six acres) of the peasantry in the region of mount Vesuvius, maize was the grain cultivated, as the article which afforded the chief subsistence of their families. Barlow found hasty pudding, of Indian meal, in Savoy, if I rightly remember, and celebrated its good qualities in a poem.

The "properties" of maize. Barlow, I believe, ascribes the athletic size of his parents' numerous sons, to the nutritive qualities of this grain. Count Rumford, in one of his essays, mentions the opinion expressed to him by some of the South Carolina planters, (he was in that state at one time in the revolutionary war,) that the negroes preferred the same measure of Indian corn, to that of rice; giving this reason—"it made strong to work."

You wished "to trace the length of the small fibrous roots." This I have never attempted. But I recollect, that, in conversation with Peter Oliver, when he was a Judge of the Massachusetts Superior Court, (of which he was finally the *mandamus* chief justice,) anterior to our revolution,—a gentleman of amiable manners, affable, and fond of agriculture,—he informed me, that in passing on a road where some men were digging a well, in a hollow of rich ground planted with Indian corn, he alighted, and traced some of the roots to the depth of *nine* or *eleven* feet below the surface.

Jethro Tull, the father of the English horse-hoeing husbandry, who wrote his book ninety years ago, considers the cutting off the small lateral roots of wheat, as important to the most vigorous growth of the plants; on the principle, if I mistake not, that their excision caused a multiplication of fibrous roots, and so increased the number of mouths by which the plants received their food: as numerous shoots will spring from the limb of a tree cut off in pruning. Such excisions must be extremely beneficial, if what Dr. James Anderson (I do not recollect in which of his works) states, as ascertained by the experiments of a French naturalist (I think Bonet by name) be true—that plants do not derive nourishment through the pores of the *bark* of the roots, but solely through their *ends*. I confess that I doubted the correctness of those experiments; and the more, because the present Thomas Andrews Knight, now president of the London Horticultural Society, and who, Sir Humphrey Davy says, has thrown more light on the vegetation of plants, than all preceding naturalists, speaks expressly of plants deriving their nutriment, in part at least, through the bark.

"How far north does the culture of maize extend?" It is raised in Maine—I believe, in every part of the state. But in the more northern parts, I presume they plant only the yellow, small eared kind, called Canada corn. It is mostly eight rowed, the rows and grains closely set. The Connecticut settlers at Wyoming would plant it in June, and obtain full-ripe crops. I have raised it in the neighborhood of Salem. It is valuable for late planting, and for a northern region: but neither in product nor flavor, is it equal to our larger yellow corn. I first heard the word "Tucket" corn, among the people at Wyoming; and I made then the same conjecture that you have done—that it was corn originally from Nantucket. That sandy island would naturally hasten the ripening of corn, and give it the *habit* of early ripening: just as a variety of Barley (called "rath ripe") in England, produced on their warm "chiltern" grounds, acquires a habit of ripening earlier than barley sown on richer and colder soils.

Thus far you have what my hasty recollections furnish on the subject of your inquiries. I will now add an extract from a book published in 1795, by the English Board of Agriculture, being the Report of a committee on the culture of potatoes, in which I remembered that some of the properties of maize were incidentally mentioned. It is from an analysis of the potatoe root, by George Pearson, M. D. and F. R. S. The experiments were made by him at the request of the Board of Agriculture.

The Extract. "The composition, or more properly the mixture of the potatoe-root, is, in many respects, similar to that of the seed of wheat and of maize. We are indebted to James Bartholomew Beccari, professor of chemistry at Bologna, about 70 years ago, for the important discovery, that the meal of wheat and maize contained not only starch, but a soluble mucilage or extract, and a glue of the same nature as animal matter. These three substances are only mechanically mixed with one another. The glue is not capable of the saccharine, vinous, or acid fermentation; but like animal matter, putrefies." Dr. Pearson says the meal of potatoes contains no animal matter. "The proportion of the animal glue of wheat," says the Doctor, "is stated variously, in different experiments; but the general mean result appears to be, that it is about one twelfth of the meal. To this glue is imputed the superior quality of wheat-meal for bread."

We have no varieties of Indian corn, other than are commonly known in the same latitude in your state. A yellow corn (of 8, 10, or 12 rows—chiefly of 8 rows), is most generally raised; and the ears appear to me to be the same that the people at Wyoming called Tucket corn. Here and there a farmer raises a white flint corn, very like, color excepted, to the former. We have some sweet corn for boiling in the ear, while in the milk. I never saw any grains of a crimson color, except on some parts of the ears of Mandane corn, brought to Washington by Lewis and Clark, and of which Mr. Jefferson gave me a few grains: it was not worthy cultivating. Last year I saw some large eared and large grained corn, brought from up the Missouri. It ripened in this county; but better when *crossed* with our yellow corn.

TIMOTHY PICKERING.

SAMUEL M. HOPKINS, ESQ.

The Cankerworm.

Newport, Feb. 28, 1793.

HON. JUSTIN ELY, Esq.—I was the last evening favored with yours of the 14th inst. "It is with real pleasure I communicate to you, sir, the information I have had of the efficacy of quicksilver in destroying the canker worm, so destructive to our apple trees. Having been informed of an instance in which the trial had a complete effect, I was induced to examine into the facts personally. I waited upon the gentleman who had declared the success of his experiment:—A Mr. McCurrie, a gentleman who owns and improves a good farm on this island,—a man of good observation, an excellent farmer, and on whose credit the utmost reliance may be had. He had several orchards, but the one the experiment was made in was an old orchard of very large trees. Nine trees, the most central in the orchard, he bored with a spike gimlet about four or five feet from the ground, an inch and an half or two inches into the tree, rather slanting the boring downwards. He procured an ounce of quicksilver from an apothecary—half an ounce he inserted into one of the trees, a quarter of an ounce he inserted into three trees in equal quantities, and the other quarter of an ounce as equally as he could, he divided into five other trees. He then plugged up the holes tight. This was done, I think, in December. Some weeks after, he took out the plugs, and found the quicksilver in the same state he had put it in. He again plugged up the holes, and sometime after the sap of the trees had begun to ascend, he again took out the plugs and found the quicksilver was gone, leaving behind something like the slime of a snail. The worms came as they had done the year before, and totally destroyed all the verdure, &c. of all the trees except those nine, which were in as good order as ever they had been, and yielded their common plenty of apples, about one hundred bushels. The boughs of some of the nine trees interlayed, and were interwoven with the branches of the other trees; and he said the fruit upon them was equally good, while the branches of the other trees so interwoven amongst them, appeared as though they had been fired. The trees with the least quantity of quicksilver were equally protected or preserved, as the one which had half an ounce. He inserted the quicksilver with a quill open at one end and the side of it cut in the manner we make a pen, the more readily to let the quicksilver into the quill.

As to the Palmer Worms, I know nothing of them; he made no complaints of them. If they are a worm which always follow the other, they might have been equally affected. It seems the quicksilver might have been diffused by the sap to the very extremes of all the ramifications of the trees.

I should think it may not yet be too late to try the experiment, though I should prefer the latter end of January or beginning of February, for inserting the quicksilver." Perhaps credit might be given to the effect of such an experiment, by reasoning from the effect which mercury has upon the human body. But I leave that province to others, whose professions and abilities are more adequate to the undertaking;—ever preferring facts to theory, and that humble track to the labyrinths of fancy and imagination. At any rate, facts and successful experiments are most encouraging to the farmer, who ought to be lead by a certainty of success or gain, as too many can illy bear unsuccessful labor or expense. I have heard of an attempt of the like kind as the foregoing, made without success; but this was attributed to an improper time of inserting the quicksilver, viz. in June.

I have the honor to be, most respectfully, your obedient humble servant, HENRY MARCHANT

The Peach—Important Experiment.

MESSRS. GAYLORD & TUCKER—In the spring of 1837, I wrote to Judge Buel, asking him to join me in experiments on the Peach Tree with Salt Petre, and proposed to give the result through the medium of the Cultivator to the public. I gave as my reason for that request, that as far as my observations extended, I had always observed that on soils containing nitre and muriate of soda, the Peach tree lives luxuriantly to an advanced age, while upon soils immediately adjoining, immature decay takes place, and the tree seldom attains the age of seven years. As instances in vindication of this occur so frequently, I have been astonished to see them passed over without notice, and now advert to some of them to establish the truth of this position. Peach trees growing in the site where once stood a dwelling, generally live to an old age, the soil of which, by analysis, will give a proportion of nitre. The same thing occurs in many districts of the West and South West; upon one farm the occupant has no difficulty in having good peaches, while his neighbor finds it a laborious task to prolong the life of the tree to a few years, and on well cultivated farms near the seaboard, I have been informed, they have but little difficulty in growing this tree. Having these and other instances for my guidance, I commenced experiments with salt and salt petre, in the year 1836, upon an orchard six years old; clover was sowed upon it that spring, and it remained in grass till last fall, when it was plowed and sown in wheat, and clover this spring. The trees in '36 were full of worms; some of the trees were dead, others apparently dying, and but very few put on the appearance of health; such was its distempered condition that some of my friends advised me to cut down about one-half of those that yet showed life, saying that such was the practice of Peach growers. I thought it would be a bad practice for a physician to destroy one or more of a family to prevent disease from spreading, and after cutting down those that were dead, I commenced operations on the balance with equal quantities of salt and salt petre combined, applying about a half a pound upon the surface and in contact with the trunk of the tree; then sowed it broadcast over part of the orchard, at the rate of about two bushels per acre. The result of this application, to the surprise of my friends, was the appearance of perfect health, with new and vigorous shoots, the trees full of fruit, which matured with increased size and improved flavor. Towards the last of March, and again in May and September, 1837, I applied the same ingredients in different proportions without observing much difference in the effect; though I have since thought that where I applied the salt petre alone, and where the largest portion of the mixture was nitre, the effect was best; but in consequence of the price of salt petre, I have endeavored to ascertain the smallest quantity that should be used, and I would not advise less than one-eighth, though I should prefer one-fourth or more. My trees this fall (1837,) were free from worms, all doing well, and I have found no further use for the axe in the orchard. In the year 1838, I applied the mixture to a part of my orchard in March, the other part received the application in June and September; upon that part done in March, I had an abundance of fruit, while those done in the 6th and 8th months were comparatively destitute of fruit, it having been killed by a late frost. It occurred to me that I was indebted to the salt, &c., for the abundance of fruit on the trees done in March, by its retarding vegetation; and from an experiment made in '39, it appeared to be the case, though I have never considered it of sufficient importance to repeat it, for the purpose of testing it further.

In regard to the best time to make this application, I would say about the first of April, and to those trees having worms in them again in June or September, as the appearance of the worm may indicate its necessity, using about two-thirds of the usual quantity for the June or September dressing, and to be used only in contact with the trunk of the tree. I have not discovered any great benefit from sowing it broadcast over the orchard every year; I prefer to do this every second or third year. If the tree is injured very much by the worm, to wash the bark of the trunk with a solution of this mixture and water might be of service, being careful not to apply too much; this should not prevent its application in a powdered state. To my trees planted in the fall and spring, I apply as soon as done planting in the spring about one ounce upon the surface, in contact with the trunk of the tree, and repeat this quantity again early in June or September, the Peach worm at these two last periods, being in their infancy, are destroyed.

In August, after one application of this mixture to my young trees in the spring, I have taken several worms from off the outer bark of a tree, bedded in gum, they having punctured it in a number of places, but did not penetrate to do any injury to the inner bark, while the next tree left without the above mixture was nearly destroyed, the inner bark being eaten for more than two-thirds around the tree. It might be supposed that the salt and salt petre would produce instantaneous death, but this is not the case; I have kept them half covered in a solution of salt and water, and salt petre and water, and in these two articles combined for several hours without causing death; they will avoid its approach, and will not remain in it unless compelled by necessity.

In compliance with the promise heretofore made, I have endeavored to give in a brief manner my practice on the Peach tree for five years, from which I have no reason to make a change, but many inducements for a continuance of the practice. If you consider it sufficiently important for publication, it is at your disposal, and if any benefit should arise therefrom, be assured it would be the highest reward for any services of mine that could be tendered to, dear sirs, your obedient servant, LYTTLETON PHYSICK.

Ararat Farm, Cecil county, Maryland, July 6, 1841.

Manufacture of Silk at Auburn.

MESSRS. EDITORS—I forward you some memoranda on Agriculture and other kindred subjects, made during a recent visit to Auburn.

First, of the manufacture of silk in the State's Prison. I am one of those who have long entertained the opinion that notwithstanding the revenue accruing to the State from the carrying on of the common mechanical trades in the Prison, the principal is radically wrong. The common objection urged against it, viz. the injurious competition which it raises against our mechanics, though valid as far as it goes, weighs little in my mind, compared with its *moral* and *social* influences. Its moral effect is to scatter pollution into every work-shop in the state, by means of these discharged convict mechanics, who we lament to say, (though the fact is perfectly notorious,) in a vast majority of instances, go out *unreformed* men. Every *parent* will judge whether such are fit and safe associates for their sons who are apprenticed to mechanical trades. Its social effect is to sink down the mechanic in the scale of society—and form a line of demarcation between his occupation and that of others, who would deem themselves sullied and disgraced by the admission of a convict into their ranks. What would our professional gentlemen say to a class on law or physic, educated by the State, from prison convicts! Now, is it to be supposed that reputable and respectable men will continue to send their sons into occupations where they will be brought into constant association with felons—vicious and degraded men—sent there too by the State? And when *such* men cease to send their sons into the work-shops of the mechanic, will not mechanical trades sink into disrepute—become an occupation only for those not possessing the pride or the aspirations of republicans? But a truce to controversy. I have been hurried into this digression by feelings which are the growth neither of a day or a year, but have been entertained from the first day I was old enough to form an opinion on the subject.

It was to obviate such objections, principally the first, that the experiment of attempting to manufacture silk was introduced into the Prison. We have no class of mechanics engaged in this occupation. The State is made to act as a most useful pioneer in introducing a valuable department of manufacturing, and directly encouraging a valuable branch of industry, by furnishing a home market for the raw material. In these points of view, I deem the experiment every way a proper and a worthy one, and it was therefore with much pleasure I accepted the invitation of the Agent of the Prison, to inspect their operations in this department. It is under the supervision of Mr. John Morrison, a Scotch gentleman, who was educated to the business in the silk manufactories of Paisley, and who subsequently worked in several of the first establishments in England and Scotland. The State has not engaged in the production of cocoons, though the thing is somewhat contemplated, unless the supply should rapidly increase. They are purchased at $3.50 flossed, or $3 with the floss on. Convicts are taught to reel the silk, and put it into skeins after being colored, and I hesitate not to say that a most beautiful article, possessing fully the evenness and strength, as well as the softness and brilliancy of the best foreign sewing silk, is already manufactured. Mr. Morrison states the gratifying fact, in which he says he cannot be mistaken, that the cocoons fed in this country produce *a better quality of silk* than any of the French, Egyptian, Chinese or East India staples, which he was accustomed to see in the first British manufactories. In proof of this he presented me a large hank of his own reeling, which he was about to forward as a *challenge* to his friends in Europe,—and which he requested me to compare with any foreign article which "could be scared up." Having been always rather sceptical as to the success of the silk culture in this country, especially since the great morus multicaulis speculation, I determined to sift the matter to the bottom. The following are the facts which I arrived at, and unless I am greatly mistaken, Mr. Morrison's constant aim was to fall below rather than exceed a just and *average* estimate. To begin at the beginning. Every man knows what an acre of good land will cost. This is to be planted with multicaulis in rows three feet apart one way, to admit a cultivator, and the roots a little more than half that distance apart the other way. The slips (for it grows from the slip,) can now be obtained for a mere trifle. They are not suffered to grow into trees, but are cut down to the ground every fall. This makes the leaves better, more abundant, and more easily obtained for feeding. It will also allow the multicaulis to be *cultivated in almost all parts of our country*—in many where the trunk of even the hardier varieties of the mulberry will not survive the winters. One acre of multicaulis properly cultivated, (that is worked with a cultivator, and hoed three or four times in the season, like Indian corn,) will produce, after the first season, at least 20,000 lbs. of foilage. 25 lbs. of silk has been obtained by many persons year after year, from a ton of leaves—but to make every allowance for bad seasons, accidents, &c., suppose the product of one acre to be but 100 lbs. of silk, or 100 bushels of cocoons. These at the Prison price are worth $350! An experienced reeler will reel 1 lb. of silk per day. It now requires the labor of two convicts to reel that amount. The silk when reeled is readily sold at $5.50 per lb. The actual cost of coloring does not exceed one dollar to the pound, to which add 30 cents for skeining, and you have sewing silk worth $10 per lb!! Let us recapitulate the cost of a pound:

Cost of cocoons,	$3 50
*Reeling,	60
Coloring,	1 00
Skeining,	30
	$5 40
Market price for sewing silk say,	$10 00

Here we have a profit of about 100 per cent to the State, and *equally within the reach of any man or body of men who will embark in the same business.*

Now a word on the subject of rearing and feeding the worm. I profess no skill in these matters. But Mr. Morrison, the Agent and Clerk of the Prison, and other gentlemen with whom I conversed, all of whom spoke from much careful observation, and some of them (including Mr. M.) from *experience*, agreed on the point that there is no difficulty in any person's managing the silk worm; that it was surrounded by no mystery, and required no particular skill; and that it required but a trifling outlay of capital. Mr. Morrison has fitted up a small cocoonery in the chamber of his house, where he is feeding 100,000 worms. The worms are entirely fed and managed by two little girls from 12 to 14 years of age. A boy of about the same age collects and brings the leaves. This is *all* the labor employed in the cocoonery, and Mr. M. thinks the children could take care of as many more. 100,000 worms, *well fed*, will produce 30 bushels of cocoons, or 30 lbs. of silk, worth, in its raw state, $105. A smart girl, after three or four weeks of experience, will reel 1 lb. a day—which would swell the produce of 100,000 worms from $105 to $165!!

The expense of Mr. Morrison's cocoonery consists in a few shelves of planed boards set up on frames, all of which one carpenter could do in one day. The outlay for eggs amounted to $10, and this need not, of course, be again incurred. Mr. M. thinks any comfortable barn or other outbuilding would answer the purpose, and that a crop of worms might be easily got along with before haying. What say our farmers to this? I confess my scepticism is "wearing off *fast*." I may as well here remark that any person who is desirous of obtaining further information, as to the manufacture of silk in the Prison, can obtain it by addressing the Agent, HENRY POLHEMUS, Esq., post paid.

* Done principally in silk establishments by females. We estimate it by the price of convict's labor, calling it two days to the pound.

Fine Cattle in Auburn and its Vicinity.

I cannot close, even at the expense of being a little tedious, without mentioning some of the herds of fine cattle owned in and about Auburn. That collected by Col. JOHN M. SHERWOOD during the past season, comprises some exceedingly choice animals. Of the cows I noticed, four were from the herd of the late Patroon, Van Rensselaer of Albany. "Pansey 2d," is a nice, but rather a low-headed cow, and "Laura," a heifer of two, is a beautiful animal, though not handling to perfection. Four of the cows were from the yard of Mr. ROTCH, of Otsego, though two of them were purchased of, and one of them bred by another gentleman, Mr. JOHN ALEXANDER, of the same county. All of them with perhaps the exception of "Diantha," a yearling, are animals well "known to fame" amongst breeders. The old cow "Daisy," which thousands have seen and admired in the yard of Mr. Rotch—a cow that has made her 16¼ lbs. of butter in a week, and who has been the mother of a family of short horns, possessing as great an union of milking properties and hardiness of constitution, as any ever imported, has now a fine bull calf at her side, by Nigel. It is an extremely promising animal. "Stella," a four year old cow, has all the *dash* and *finish* of Mr. Whittaker's yard, from which she is immediately descended. "Sylvia," a two year old heifer out of the preceding, is a study for a breeder! She is *about* as near perfect as flesh and blood can be molded! There is a heifer calf too, "Nora," of which I should have something to say "in the same category," were it not for the fact that she was from my own herd. Of the three bulls, "Archer" is from the yard of Mr. Rotch, "Bolivar" from Mr. Van Rensselaer's, and "Newark" from my own. The two latter are yearlings. "Archer" is a magnificent animal. A portrait of him *would* grace, and I presume *will* grace the columns of the Cultivator.

J. B. DILL, Esq., has a couple of short horn heifers, of which, had they not been purchased out of my own herd, I should have much to say. And I *will* take the liberty of saying that whoever attempts to beat "Rose" as a *milker*, with an animal of the same age will "find his hands *full*." Had Mr. Sotham seen fit to accept my challenge, and named a heifer, I would have named this one against him.

A pair of Col. S.'s bays soon carried us over to Skaneateles to see the herds of Messrs. WILLIAM FULLER, SILAS GAYLORD, etc. Mr. Fuller owns the celebrated bull President, and the cow Gipsey, bred by the late Patroon, Van Rensselaer,—some younger animals, also full blooded, and a large number of grades. Several of these are choice animals. "President" more resembles "Washington," the bull originally imported by Gen. Van Rensselaer, than any other I have seen from his herd. Deep, low and massive, his weight, exceeding 2000 lbs. is supported on limbs of extreme delicacy. The foreleg can be clasped below the knee by the fingers of a long hand, while at its junction with the body it is nearly two feet in circumference.

Mr. Gaylord's bull "Splendid," now 3 years old, was sired by "President." We estimated him to weigh fully 2000 lbs. He is better in the crops than his sire, and longer from the hips to the point of the rump. In the bosom and twist he is rarely equalled, but in handling properties he does not, nor in fact does hardly any other bull in the State, equal "President." Mr. G.'s "Drusilla" has some bad points, but in others she would be difficult to excel. I think I never, except in pictures, saw so deep and projecting a brisket. Mr. G. has some other full bloods, and many valuable grade animals. At Mr. RUSSEL FROST's, Mr. HORTON's, &c. we saw beautifull grade cows and calves.

On my return, I inspected Hussey's grain-cutting machine, many of which are now constructed and on hand for sale, by a brother of the inventor, in Auburn. They are *warranted* to cut fifteen acres of standing grain per day, and do it well.—and it is said they will go much beyond this. They are said to give perfect satisfaction, where they had been tried. All I can say is, they *look* as if they would "answer the recommendation."

In the vicinity of Auburn and Skaneatelee, I noticed in the meadows of timothy a large quantity of dead heads, bleached out perfectly white. In some fields there were enough of them to occasion a serious diminution of the hay. I was told it was general throughout that country. The disease, or whatever it is, seems advancing from a southerly direction. It had increased for two or three years. On examination, the grass appeared to be dead down to the first, and sometimes to the second joint. For the space of half an inch immediately above the joint, the straw is shrivelled up within its sheath, as if the juice had been sucked out or suffered to escape by the puncture of an insect. The disease is usually attributed to such a cause. Yours truly, H. S. R.

Cortlandville, July, 1841.

GOOD MEDICINE FOR HOGS.—The American Farmer furnishes the following:—When your hogs get sick, you know not of what, give them ears of corn, first dipped in tar, and then rolled in sulphur. 'Tis ten to one that it arrests the disease, and restores the pig to health.

Plan of a Meeting House—(FIG. 67.)

MESSRS. EDITORS—Would it be extraneous to the cause which your most valuable paper is engaged in, should I contribute to its columns the enclosed plan; a side and front elevation view of a Meeting House? Many useful drawings have appeared in your paper, among which are some good designs of dwelling-houses. If those plans are of importance to the farming community, as I think they are, not only in contributing to comfort and convenience, but also in appearance, is it not essential that the farmer, after the laborious duties of the week are performed, should have a comfortable and convenient place, where he may meet with his fellow-men, and with them unite in religious devotions? And should not the temple of the Most High be something more than a log cabin, where pecuniary circumstances will admit of a better? Even in this enlightened age, appearance has a vast influence on the mind of the spectator. Nature and art have been busy in decorating what is pleasing to the eye. Behold the sun, the moon, and the stars; the architecture of the firmament, the brook the rock, the tree, Nature's richest gifts; the more frequently we view them, the more beautiful they appear. Art has done much, very much, to relieve the eye from Nature's landscapes. The ship on the ocean attracts notice by her symmetry of form and elegance of dress; the splendid palace, the costly carriage, and the gay saloon, they too have admirers; but what is more pleasing to the eye of the traveler, than a well proportioned and handsomely finished Meeting House, of which I flatter myself, the attached plan is a fair representation? Yours respectfully, JOHN CAIN.

Rutland Vt., August 20, 1840.

Qualities of Cattle, and Management.

A part of the stock of a farmer must consist of cattle, and the maintainance of these, and their management, must ever be an object of great consequence; and in proportion to the numbers which he keeps for sale, in addition to those which he employs on account of their immediate service and labor, the importance of the subject is increased to him. Whether oxen or horses for labor are the most advantageous, is an unsettled question. On some farms the situation is such as not to admit of a doubt but the ox may be the most beneficial. Bulls are on some accounts to be preferred to oxen, being procured at a cheaper rate, and more hardy and persevering in labor. In some cases the question would be decided differently; the activity of the horse is extremely superior to that of oxen, and it is more applicable to different species of employment; when dispatch is more required, than moderate absolute strength, as in loose soils in the operation of plowing, the quickness with which the horse completes the business, in comparison to the ox, will give the preference of the one to the other. When the team is kept to grass in summer, there is a gain in stocking with cattle over horses. The great injury done by feeding pastures with horses instead of oxen and other cattle, is an injury very material and obvious.

In the selection of the best breeds of cattle, many good points will not vary materially from those which should be noticed in the selection of the horse, sheep and swine. Short legged cattle are generally of a good quality, and are almost uniformly connected with a good make. Straightness of back is another important recommendation; when straight and broad, and flat on the loins, an experienced judge will more readily decide on their worth. If the carcase be of a barrel form both in the fore and hind quarters, it is good point of excellence. A curled and loose hide, handling mellow, is an indication of a thriving beast. Great notice should be taken of the breadth of the bosom, and between the fore legs, standing quite wide; much in buying is lost or gained by attention to this point; it implies not only good symmetry, but strength and speed; a good proportion of breadth of breast gives the wind, which is very essential to the working ox. At eight, nine and ten, they are going back in all their points, and in their value after seven; and no ox should be kept after eight years.

Steers should be yoked at two or three years old, and lightly worked, gradually increasing until four, when they may be full worked; they will attain a larger size than if they were unworked; their growth generally finished at six.

Heifers are generally allowed to come in with calf at two years old. The arguments in favor of bringing heifers in at two years old are, that they come sooner to profit, and are more apt to make good milkers. On the other hand the argument in favor of bringing them in at three years old is, that not being stunted in their growth, they make larger, finer cows than those that are suffered to bear calves at a more early age. A middle sized cow may afford as much neat profit as one of larger stature; much depends, however, upon keep; and the propriety of bringing heifers to milk at two years old, depends upon soil and situation. As regards the best season of putting cows to the bull for the object of milk and rearing of the calves, it is a point of importance to have them dropped as early as the month of April, as the season begins to be warmer. As the young grass begins to come

forward the calves can be reared with the least trouble and expense, and the cow is in season for the profit of the dairy. Young cows should be milked to near the time of calving, that they may the better hold out for milk as they advance in years; if allowed to dry up their milk early the first season, it will be quite unavoidable after,—but some regard should be had to the keep; those that have good keep may be milked to a much later period without injury, than those under the contrary circumstances. In twin calves, one being a bull and the other a heifer, the latter frequently has not the organs of generation, and I have known of cases where they both broke to the yoke together; the heifer being equal to the steer for strength and labor. They seem to partake more of the nature and form of the ox than of the cow.

In regard to the cattle of our own State, more particularly the western part, they are not less numerous in their varieties than those of foreign kinds. We have excellent native breeds, but that regard for the improvement of neat cattle has not been bestowed on them that has been in some of the other States, and not as much as would have been profitable to the grazier. But more attention has been of late bestowed on the breeding, rearing, and providing such sorts as are best suited to the nature of the farm or land on which they are to be supported. Those fine cattle which are found at the Brighton Market, called the "Lake Cattle," are reared in this section of the State. SOLOMON W. JEWETT.

Weybridge, Vt., Feb., 1841.

Draining.

Messrs. Gaylord & Tucker—I submit to your consideration, some of my views upon a subject which has been extensively examined in England and on the continent of Europe. Their views, however, have been adopted with reference to a state of things with them,—such as the price of land, labor, redundancy of capital, and many other considerations, differing so essentially from ours, that their adoption, to their full extent, in this country, may be considered of doubtful utility.

I have desired to see this subject thoroughly investigated, with particular reference to our own condition; but if it has been done, it has not fallen under my observation. With these views, therefore, if my suggestions shall be found to vary somewhat from standard English authority, I beg that it may be considered as emanating from a desire, rather to suggest inquiries for those better able than myself, to examine the subject in this light, than from any spirit of controversy with systems which are probably well adapted to the state of things in Europe.

Two questions are necessarily involved in the subject:—First, its utility—secondly, the mode of effecting it. To do justice to either, it will be necessary to understand the different conditions in which water is found, and the manner in which it affects the soil. So far as my observation has extended, it may, with sufficient accuracy, be classed under the four following heads:

First—What is usually termed "surface water." Under this term I include both standing water and running streams, when their source is beyond the premises affected, as the mode of removing either is nearly the same, although they may and generally do affect vegetation very differently in many respects.

Secondly—Subterraneous ponds. These differ but little from those above the surface, except that they are filled with porous earth or a sufficient quantity of it to allow of a circulation of the water to every part of the bason. These subterraneous collections of water are evidently held in their position, by the same means as surface ones; an impervious under strata; and like them, rise and fall with the wet and dry seasons.

Thirdly—Springs. This term has commonly been used to indicate the point where a subterraneous stream breaks out upon the surface; but I use it in a more extended sense, as including all well defined subterraneous streams. There are some respects in which these differ from surface ones, having a serious bearing on the vegetable kingdom. They have their immediate source at a considerable depth in the earth, from whence the water arrives, uninfluenced by the air, the sun, or any of the causes which fertilize the surface.

Fourthly—For the want of any more definite term to indicate the remaining condition in which water appears to the farmer, I shall call it a *leach*. Water is frequently found sluggishly leaching out upon sloping lands without any defined channel. These leaches are frequently of great extent and depth. This is the worst condition in which water is found, whether we consider the extent of its injury, or the draft which it makes upon the intelligence and patience of the ditcher. Like springs, they have their immediate source below the influence of the air or surface heat.

This classification will enable us to look more accurately at some of the operations of water upon soil; how it affects its vegetating powers; what influence it exercises upon the atmosphere, and through that upon vegetable life; and what *direct* influence it exercises upon vegetation, and thus enable us to decide upon the utility of draining.

I am aware that I cannot go into any extended analysis of these propositions, without intruding upon the rights of others, equally entitled to your hearing. I will confine myself, therefore, to a single case, and that by way of illustration, of frequent occurrence among good farmers,—a piece of land, which is too wet for early plowing, but from the surface of which the water will retire so that the crop may be sown in "pretty good season," to use a common expression. Now suppose this field to be affected by a leach, as is frequently the case with such lands. It will be seen that this soil up to the time of putting in the crop, or about that time, has received little or no benefit from the influence of spring. The water coming from a source below its influence, and mixing freely with the soil, retains it at its own temperature, and at a point below that at which the elaboratory of nature commences its process of preparing the manure, or fertilizing qualities of the soil, to produce vegetation, and after all it must be noted, that the water receding more slowly as it disappears from the surface, and the more active means of evaporation, probably remains but a short distance below the surface at seed time, and continues its influence upon it. But be this as it may, the soil is wet, and at a low temperature, a number of days later than on a dry soil, other things being equal. On these few days, in a climate like ours, frequently depends the crop, or at least a good share of its value. It must be borne in mind, that the water which has only ebbed during the dry season, rises again as this season terminates, chilling the surface, and reducing its temperature, some days before the eye detects its presence; thus preparing it for an early frost, which the dry and warmer soil escapes. Here we find a solution to the inquiry, why some pieces of land are more subject to frost, in spring and fall, than others. We frequently find a valley or low piece of ground covered with a deep, rich mold, but no crop can be raised on it, because it is so inert, or it is so frosty. Is not the above solution of the difficulty satisfactory? Can any other be given? The inquiry may be made, why these frosty pieces have such a depth of vegetable mold, while warmer ones equally low are destitute of it? The late and early cold water has always affected it; and the leaves and grass falling on it, or which have been blown on to it, have been retained there by its moisture. This moisture and low temperature consequent thereon, has retained them in an inert and imperfectly decomposed condition, until the present quantity has accumulated. But the man who waits for the water to dry off from his land, to put in his late crop, may object to my view of the subject, that after all, his crops are as good, or nearly so, as those grown on dry and earlier ground. This may be, and frequently is the case; but it will be seen, that it fortifies one of my points, and does not militate against my theory. These moist lands, from the cause above assigned, have frequently a much greater amount of unexpended vegetable matter, than any others; indeed, a fertility sufficient to overcome, to a considerable extent, the difficulties which I have enumerated, and if properly drained, would be ranked with our most fertile and certain lands. Look at this subject in connection with the application of manure. If the soil is wet and leachy, it is certain to carry off a portion of its strength, with the superabundant water, and what is left, the coarser part from its low temperature, is comparatively inert and useless, at least in the early part of spring.

As I intend to confine myself rather to the theory of this subject, with barely sufficient illustration to be understood, I will restrict my remaining remarks, to the mode of draining. This depends on so many local circumstances; for instance, under which of the above heads is the water to be classed? What is the character of the soil? What is the slope of the land? What is its elevation above the lowest point at which it can be discharged? that I shall content myself with a few rules applicable to most cases. My first general rule is, *do all you can by a single ditch*. One properly located, and of sufficient width and depth, will generally supersede the necessity of many smaller ones, will be more economical, and will generally be decidedly more efficient and durable. My second general rule is, make an open ditch. So far as my experience has extended, it costs more to cover a ditch, so that it shall be permanent, than it does to dig it. Here is a saving of one-half of the expense, supposing them both to be dug by hand, which should be done, where they are to be covered. The ditch which I recommend, can be done almost entirely with the plow and scraper, and at an expense not exceeding one-half of what it would cost, to do the same with a shovel; and if the earth is soft and wet, it will make more difference. If the plow and scraper are used, the common farm help can generally do it; these men are seldom willing to do much with a shovel and pick axe, in a ditch. The ditch will not look quite as smooth when first finished with the scrapre, but in the end it will look better, as you will have a better slope, the earth will be removed to a more secure distance from the edge, and if there are any holes, or inequalities near, they can be filled up, or smoothed down. Where these ditches can be so located as to form the boundaries of fields, it should be done, even at the expense of a small crook in the fence. This commonly furnishes the best of water on both sides. Its banks furnish a dry and advantageous location for a fence; cattle are not as apt to press on it, as when approachable on both sides, and it is usually located where different soils divide, fitted for the different purposes of tillage or grass. There are other considerations of still greater weight, in my mind, in favor of this course. All subterraneous water, except what falls under my definition of a leach, has a well defined strata of porous earth, such as sand, or gravel, through which it percolates, resting on a bed of strata, impervious to water. This porous strata is at different depths, and is covered with every variety of earth. In swamps, its immediate covering is usually clay, or a hard cement of clay and sand, or gravel, and sometimes both. This is generally covered with a vegetable deposit, and sometimes to the depth of a number of feet. The porous strata never extends beyond the lower edge of the swamp; if it did, it would drain it. The head, or source of this strata is more elevated than the highest water in the swamp; the clay, or hard pan, which covers this strata under the swamp, is full of holes; the result of the action of water, roots of trees, or other causes, through which the water is forced up by its more elevated head, and presents itself upon the surface in the numerous springs with which such lands abound; to maintain an obstinate and successful defence against all the efforts of the farmer, with his innumerable small drains and ditches covered with turf, straw, or something else, which, in four cases out of five, in the end, go over to the enemy, and render his last state worse than the first; whilst the courage of the farmer lies buried with his outlay, until he is again reminded of his defeat, by a proposition to under-drain his swamp. I grant that cases may occur where this mode of doing business is the only resort. The situation of the land may be such, possibly, that this is the only remedy; but I would remark that, except in the case of small pieces, to improve the looks of otherwise valuable tracts; if land cannot be otherwise reclaimed, I doubt much whether the advantage to be gained will justify the expense, in this country, although it may be different in England. If a piece of ground is to be drained by a single ditch, the location and depth of the porous strata must be ascertained; the ditch should then be commenced, at a point low enough to cut through this strata, as it progresses. If the porous strata is thoroughly perforated, the result must be both effectual and permanent. After this is done, the water can no more be forced up to the higher outlet, the old spring holes, upon the surface, than it could be to the discharge, in a pent stock, after the pump log, or other aqueduct was broken off, and for the same reasons. It is not necessary that the ditch should be dug as low as the bottom of the porous strata, but I would usually prefer it, if not too deep, as a precautionary measure. The fine earth which, in the process of time, has washed down these subterraneous streams, is frequently deposited more in one place than another, and as this is continued, a point is shot up the stream and widens; and has frequently a small stream under it. This may have projected itself above where the ditch crosses, and must be so, if any spring continues to discharge. The remedy is plain. The vein must be tapped, and this would be easier and perhaps the necessity for it would have been obviated, if the ditch had been dug to the bottom of the strata. If the porous strata should be found at such a depth that no outlet can be adopted, low enough to drain it, or if the depth should be such that the expense would prevent setting the ditch to its level, the water may be reached by sinking wells from the bottom of the ditch, to the region of it. The uncertainty, however, of opening all of the veins by this process, is such, that it should not be adopted, except in extreme cases. The ditch should usually be carried along the upper side of the land to be drained, or the side on which the water approaches it. One main reason is, that the porous strata will be found easier, and better defined here: but there may be cases, where, from the want of fall, the depth of the porous strata, or the depth of intermediate excavation, the width of the swamp, or other causes, an intermediate course may be adopted. If the porous strata is effectually perforated, the water will discharge itself through the lower artificial orifice, before it would force itself to the higher level, to supply the old discharge. I have known a ditch thus situated, to draw off water that stood upon the surface some distance above it. There is danger, however, in adopting these lower locations, that a branch of the porous strata may not extend as low as the ditch, and thus not be perforated.

Where what I have termed a leach occurs, a resort to a number of parallel under-drains may be proper, if the situation of the land will justify the outlay. If, however, the slope is moderate, I would still adhere to the other system. It is true, that it might not be convenient to cut a ditch to the bottom of the leach, yet it would probably cut off the water from all the land above a level extending out from the bottom of the ditch to the surface, where, if necessary, a second may be cut. If the quantity that could in this way be reclaimed would not justify the expense, I doubt whether any other course could be adopted, with hope of better success.

I would make the additional remark, that unless the earth above the porous strata is cut through, the ditch of whatever depth, will only operate as a surface drain. I have seen frequent instances, where an individual having determined to make thorough work, has cut a deep and expensive ditch across a field of clay, or other impervious under strata, which only operated as a surface drain, and when one of a few inches in depth, would have been equally beneficial. Had he dug through into the porous strata, perhaps but a few inches lower, or what is more than probable, had his ditch been properly located, with much less depth and expense of excavation, his field would have been drained.

HENRY STEPHENS.

Cortland Village, Jan. 14th, 1841.

The Commentator—No. 1.

Messrs. Gaylord & Tucker—I have often thought that it might be beneficial to the cause of Agriculture, if some of your most experienced correspondents would undertake to offer a brief, but free and impartial commentary on each number of your paper, by which the attention of your numerous readers should be particularly invited to such communications as appeared most deserving of notice, either for the useful information they contained, or for such statements as might seem rather calculated to produce erroneous opinions and practices in husbandry. These comments,—if they answered no other purpose, would probably elicit a further discussion of all doubtful matters, than would otherwise be made in the Cultivator; and would tend also, to settle many agricultural controversies that appear to be endless.

Under these impressions I now send you a specimen of such a commentary as I have suggested; not, by any means as a model, but by way of temptation, or inducement to others to undertake it, who are better qualified for the office than myself. It will be made on various articles in your June number, and will be continued on each succeeding paper,—provided you and your readers should appear to approve of the attempt, and no other person will make it.

The first article on which I will offer a remark, is the late patriotic act of the New-York legislature, appropriating $8,000 annually, for five years, towards promoting the husbandry of that great and prosperous state. This measure highly merits the praise of all true friends to the agriculture of the United States; and affords an example of such wise and beneficent legislation as is well worthy of imitation by every other state in the Union. Husbandry, which is the all-bounteous nursing mother of every trade, profession, and calling in our whole country; in fact, the *sine qua non* of all national prosperity, has heretofore been most shamefully neglected by the guardians of our public interests, both state and federal. It is therefore high time that such neglect should be punished by the people themselves discarding from their service all who have made no better use of the high trusts confided to them.

If J. R. of Sing Sing, will take the trouble to refer to the first volume of Count Rumford's Essays, (American edition,) he will find the subject of "fire-places and chimneys," most amply discussed and explained "on philosophical principles."

I beg leave to dissent, although most respectfully, from a part of your answer to Hugh Gaston's inquiries relative to cedar hedges, as I live in a part of the United States where more attempts probably have been made to raise them, than in any other equal portion of our Union. You are wrong in saying that "*the central or leading shoot should not be disturbed*," for in that case, the cedars would attain their natural height of some forty or fifty feet, before they would stop growing upwards. But it is true of the cedar, and I presume of other hedge plants which have a center stem, that it should not be cut until the hedge reaches near or quite to the height at which it is intended to keep it: otherwise these stems will not have sufficient strength. There is, however, an insuperable objection to the cedar for live hedges,—at least, in all those parts of our country wherein I have seen it tried. It is subject to more diseases, which have heretofore been found to be incurable, than any other plant yet tried among us. But is it not well worth inquiry, whether any kind of live hedges are adapted to our country, as a general system of enclosure, so long as the laws of descent remain as they are? These cause continual changes in the size and form of farms almost every time that any of the proprietors die. And of course a corresponding change in the fences becomes necessary.

The inquiry of P. E. P. of Charlotte, Vt. relative to rotation of crops, suggests the following. Has any of your correspondents ever tried Indian corn with clover sown among it immediately after its last working? This to be cut and fed, or made into hay the next summer, and fallowed in the fall for wheat. The rotation would then be corn, clover, wheat, with only three fields and a standing pasture.

The inquiry of D. G. M. of Springport, relative to the opinion that "land may be made too fine for profitable cultivation," has at least one strong fact to support it, although I do not consider it conclusive. Every cultivator of a stiff soil must have observed, that it will have a very hard crust formed over it, after a hard rain, much sooner, if it be finely pulverized, than when it is in a rougher state, and will require an earlier working.

In speaking of millet, neither your subscriber at Killingly, Ct., nor yourselves have specified the kind of which you speak, although there are at least four varieties which I have seen tried in one of the middle states. But I presume you mean the white, or rather pale straw color, as it is the only kind usually sown broadcast. Of this I can say, that it requires very rich land, and is a great exhauster.

The article headed "Kentucky corn crops," will elicit, we hope, a more particular statement relative to the crop of Messrs. Bryan and Young; for to say the least of it, we cannot apply to it, as at present informed, any other than the favorite epithet of Dominie Sampson,—"Prodigious!"

Suffer me to make two remarks on your article headed "Work for the month." More than two plants left "in melon or cucumber hills," will not do so well in latitude about 38. And as for strawberries, some of our best gardeners have found that nothing is better between the rows, than a thick coat of chips nearly rotten. Cabbages in our climate, (say 38,) are apt to rot in the head, if planted out sooner than about the middle of July.

Among your things "*Not to be done*," I wish you could have added the following:—Not to borrow plantation tools or implements, and keep them until the owner himself is obliged to send for them, instead of having them returned to him by the borrower.

Not to spend our time in riding about and criticising our neighbors' farms, to the neglect of our own.

On the subject of "calcined gypsum," it will probably be gratifying to your correspondent L. B. of Hartford, Ct. and others, to know that it has been very successfully tried, both in Virginia and South Carolina: on clover in the first state, and on orchard grass in the second. See the third volume of the Farmers' Register, by Edmund Ruffin, of Petersburg, Va. Calcination saves the expense of grinding the gypsum, as pestles will pulverize it.

One of your articles is headed "Hawthorn hedges of England," and the writer who signs himself R. M. seems to recommend the hawthorn for this country. To him and others I respectfully offer the following information:—Some 30 odd years ago, a Scotchman by the name of Main, (as well as I recollect,) established a nursery above Georgetown, in the district of Co-

lumbia, where, among other things, he cultivated thorn-sets for hedges, and tried every kind, both foreign and domestic, but gave a decided preference to that variety which he called the American maple-leaved thorn. None, however, have I ever known to succeed south of the District, nor very well even there.

Mr. Solon Robinson's contemplated journey will be most joyfully hailed, as I verily believe, by all the true friends of American husbandry, who read his letter in your June number. And should he succeed in the object of it, as I most sincerely and anxiously hope he will, he will better deserve the thanks of his country, than any man in the whole circle of my acquaintance.

Mr. R. Jenkins, who recommends the soaking of peas before sowing them, 24 hours in urine, to make them "*come forward early*," should have added—"provided always, that the ground be very moist at the time of sowing." For all who dislike to be disappointed in making experiments, may take my word for it, that no kind of soaking, for any kind of garden seed, will be beneficial, if they be sown in very dry earth. The greater part of them will never vegetate, as I have several times proved to my cost.

The hint about "*the importance of associated effort*," I suspect to come from our friend Mr. Solon Robinson, and there are very few of us who may not justly condemn ourselves for not paying more regard to it, than we ever yet have done. Nay, some who are really very zealous and active friends to our cause, will highly commend "associated effort," *in general*, but unite and speak against it *in particular* cases, even although they profess to wish success to those who are engaged in them, and so far these really zealous, active friends counteract their own desires.

It would gratify me, and I presume many others, if Mr. C. Butler, of Plymouth, Ct. would give us an intelligible description of what he calls the "white daisy," of which he affirms that "he gets no hay which he considers as valuable for cattle and sheep as daisy hay, cut in bloom." Now the only thing known in my part of the country, by the name of daisy, is a most pestiferous weed, which we call the *chamomile daisy*, from the great resemblance of the flower to that of the chamomile, from which it differs in nothing but size. Neither horse, mule, cow, sheep, nor hog will touch it in its green state, and of course none of us have ever suspected that any of them would eat it, if made into hay. But we live to learn, and if our stock really would consume it in this form, we should deem it a great discovery, for many of our farms are so infested with it, that it has become a very great annoyance. It is perennial,—bears an immense number of small seed, and spreads with great rapidity, as it is a noli me tangere among all our domestic quadrupeds.

In your notice to correspondents, you very properly request them to "remember that as much directness and conciseness as is possible, consistently with the nature of the subject treated, is desirable in all communications, as you have room for nothing which has not a practical and necessary bearing on the great object for which the Cultivator was established,—the promotion of Agriculture."

Being somewhat long winded, and incontinently given to prosing on any subject that deeply engages my attention, I greatly fear that I may not have complied with your request to the extent of your wishes. Should this be the case, I beg you will not hesitate a moment to throw aside the foregoing cogitations as so much waste paper. This, I assure you, would break no squares with your friend and constant reader,

June 30th, 1841. COMMENTATOR.

Freezing of Potatoes.

EDITORS OF THE CULTIVATOR—In your February No. in a paper from J. M. GARNETT, on the "Preservation of roots," I noticed the following: "Why those roots should always be destroyed when they freeze *above ground*, and not suffer equally when frozen *under ground*, is a matter of which I have never yet seen any explanation; it is among the numerous mysteries in vegetable physiology, for the cause of which we have yet to search."

Now vegetables exposed to atmospheric transitions, necessarily are affected more suddenly in their temperature than those which are buried in the earth, yet subject to frost. It is a well known fact, that in the freezing of water, caloric or heat is given out, consequently in the freezing of the earth around the root, which is kept above the surrounding temperature by its own vitality, caloric is liberated, and, therefore, the root freezes more slowly. So in thawing, the temperature is increased more gradually, requiring several days to raise it above the freezing point, if the root be five or six inches below the surface, when, if exposed to the atmosphere above ground, as many hours, would produce the same result.

The extent of injury done to vegetables by freezing, does not depend so much upon the lowness of temperature, nor upon the length of time they are frozen, as upon their quick transition from one temperature to another. These facts apply particularly to the tuberous roots, and in a greater or less degree to the whole animal and vegetable kingdom.

Every root will be liable to injury by frost in proportion to its vitality; and the potato, of which Mr. Garnett was speaking, possesses this principle in an eminent degree.

In the native state, the tubers were very small; but then, as now, were intended as reservoirs of moisture, nourishment, and vital energy, which enables them to resist the injurious effects of cold to almost any extent, when not so suddenly applied, or, what is of much more importance, when the temperature in thawing, is not too quickly raised above the freezing point. Some of the spindle roots possess this property of vitality in a much greater extent than the potato; such as the parsnep, horse-radish, artichoke, and some others.

If the experiment be tried, it will be found that the potato will not freeze below 27° or 28° of Fahrenheit; and unless it is proven that they freeze at 32°, the reasons here assigned must be considered good as far as they go. If I have erred in my statement, I desire to be corrected; if not, the subject is not a "mystery."

E. S. B.

Rockingham, Iowa Territory, 1841.

Smut in Wheat.

MESSRS. EDITORS—As your valuable paper is devoted to the benefit of the farming community, I avail myself of the means, by making an inquiry concerning smut *in* wheat, which appears to be different from the common smut. It generally grows from about six to sixteen inches in height; and the whole bunch that grows from a seed, is invariably smut; and on examination, I found that it blows similar to the sound wheat; but I also found by trial, that it will not germinate, but like noxious weeds, it is always restricted to the same spots in each crop of wheat, where it mostly stands as thick as the wheat itself; and it is also to be found diffused all over among the wheat. Last fall, I followed the recommendation in preparing my seed wheat, published in the Cultivator, vol. 7, page 130, and also sowed a different variety of wheat, but I find the result is the same as in previous years; the heads of the smut look like those of the variety that was sown.

If you, or any of your numerous correspondents, would give any information through the Cultivator, concerning the cause or preventive of it, it would confer a favor on the wheat growing farmers.

D. L.

Williamsville, Erie Co. N. Y., July 7, 1841.

Clarke's Silk Reel—[Fig. 68.]

MESSRS. GAYLORD & TUCKER—I wish to inform the public, particularly those interested in raising silk, through the Cultivator, that I have constructed and obtained a patent for a silk reel, which I now offer for sale, and which I believefor simplicity, for making superior silk and for saving labor, exceeds any other now in use, in this or in any other country. This reel was used by several persons in Connecticut the last season, and by some in the State of New York, and met with their entire approbation, as the certificates below will show. Many more, fully confirming them, might be obtained.

AARON CLARKE.

Greenwich, Ct. July, 1841.

This may certify that I raised and had reeled the last season, nearly sixty pounds of silk of a superior quality. This silk was reeled principally by two young ladies, on a reel constructed by Mr. Aaron Clarke, of this town. The main principle of this reel, is the same as that of the Piedmontese. It spreads and crosses the thread on the reel in the same manner, and makes a skein of the same circumference, and has all the advantages of the Piedmontese reel, but is much more simple, less expensive, and is turned by the foot of the reeler; thereby saving the expense of a boy to turn. This, the young ladies who reeled for me, and who were experienced reelers, considered a great improvement. They said they could turn the reel for themselves with perfect ease, could make better silk, and more in quantity from a given number of cocoons, and reel more in a day than on any other reel they had ever used; and they had reeled on several different kinds of reels, and one of them on the genuine Piedmontese reel, but they both preferred Mr. Clarke's. The reason is, that they having the reel under their own immediate control, could reel with less perplexity than by having a boy to turn, and could make in an instant any necessary changes in the motion of the reel, which could not be done when the reel was turned by any extraneous power, but which was a great advantage, as it enabled them to reel with less waste, to make a thread more even and freer from burs.

The aforesaid silk was reeled under my own observation on Mr. Clarke's reel, which I believe to be superior to any other now in use. By it, the tedious labor and expense of a boy to turn is saved, which, together with the advantages above named, equals, in my opinion, a saving of at least 50 cents on every pound of silk reeled.

DARIUS MEAD Jr.

Greenwich, Ct. July 20, 1841.

I have examined the above certificate of Dr. D. Mead, and being fully acquainted with the facts set forth in favor of Mr. A. Clarke's silk reel, do fully agree with him in believing it to be the very best silk reel extant: and further, that if the silk growing business shall ever become established in this country, Mr. Clarke's reel will probably supersede all other silk reels on account of its simplicity and other excellent properties.

White Plains, N. Y., July 20, 1841. D. PALMER.

The price of the reel is $12. Any orders directed to the subscriber, the patentee, at Greenwich, Fairfield Co. Ct., will be immediately attended to, and reels sent on the receipt of the money to any part of the United States. The subscriber will also sell rights for States or Counties on reasonable terms. Reels may also be had on a short notice at the following places, viz: Joseph Leeds, No. 2, Franklin place, Philadelphia. At the American Institute in the city of New-York, near the City Hall; at the United States Society of Science and Mechanism, No. 21, Courtland-st.; at Dr. Porter's at the silk field, formerly Botanic Garden, near the Deaf and Dumb Asylum, where they are to be seen in operation. They can also be seen in operation at the following places, viz: Thomas Blackwood's, Princeton, N. J., at Baltimore, by applying to G. B. Smith, Esq. Secretary of the American Silk Society, at Rhoda Collin's, Bethlem, Ct., and at a number of places in Greenwich, Ct. A. CLARKE.

Hessian Fly.

MESSRS. GAYLORD & TUCKER—During the summer of 1839, the Hessian fly made its first appearance in this part of the west. The crop of wheat was a large one, and although the fly did us some injury, we still had wheat in abundance. The quantity of ground sown with wheat in the fall of that year was very great, and considerable anxiety, was felt in regard to the appearance of the fly, but we used no means to escape their ravages. As soon as the wheat was handsomely up that fall, we found that we had raised as many insects as spears of wheat; almost every spear containing from one to eight or ten insects within its leaves. They were found by pulling up the wheat and stripping off the leaf, where they would be seen attached closely to the stem near the ground. When first discovered, they were very small, like the point of a pin, and of a transparent white; they grew rapidly until they acquired about the size, form, and color of a "flax seed," and were attached so closely that a dent of nearly their size would be made in the stem of the grain. They did not appear to injure the growth of the wheat during that fall or early in the spring. It looked so fine, that until the middle of May, we felt in hopes of having abundant crops, but our hopes were soon gone. It appeared as if a new crop of insects had been brought forth about that time, and almost every stalk of wheat was literally filled; the consequence, you may easily imagine; our crop was almost totally lost. It became at once evident to all, that we must find some way to escape the fly, or give up raising wheat. The quantity sown last fall, was much smaller than for some years previous; and many plans have been used to escape the fly. The one most generally relied on is very late sowing. I have read all the articles I could find in the books on the subject, and watched the changes of the fly for the two seasons they have been here, and came to the conclusion that the fly laid the egg in the berry of the wheat while soft; and that in sowing wheat we at the same time, sowed the eggs of the fly, and must expect the one to cause the destruction of the other. Having convinced myself that the egg was in the wheat, it was easy for me to believe that by keeping the wheat long enough, the egg would spoil; and as I had wheat on hand which had been in a stack for a year, I thrashed it out and used that alone for seed. I sowed at different times from the 1st of October until the day the ground was closed by frost. There has as yet been no appearance of the fly in my wheat, while most fields that I examined, sown with new wheat previous to the 15th of October, were well filled with them. Another circumstance gives me great confidence; one of my neighbors had sown part of a field with new wheat, but fell short of seed, and came to me for a few bushels; he took my old wheat and sowed it on the balance of the field, very late in the fall. I, with him, examined the wheat; nearly every spear of the new wheat that we examined, contained the insect, while the old wheat was entirely free. I shall give you the result of my different experiments immediately after harvest, if any of them are successful. I give my theory now, only because I think it confirms in some degree, the observations made by a lady as published in your March number. She will, it is to be hoped, continue her investigations until she succeeds in ascertaining where the egg of the fly is deposited, as I think we can soon avoid the fly, if the egg is as I believe in the grain. The great importance of this subject to us at the west, must be my excuse for offering you so long a paper. The fly is evidently a great traveler, and although it last year did not reach but a few miles west of this county in our State, we fear that this season it will be found to have reached the lake, and I even fear that it may reach the residence of your old correspondent, that good friend to the farmer, Solon Robinson, and he will I hope be prepared for them.

Yours with respect, THOMAS W. WELLS.

Marshall, Calhoun Co. Mich., March 24, 1841.

The Peach Tree Grub.

MESSRS. GAYLORD & TUCKER—In the June No. of the Cultivator, a correspondent inquires of the best mode to destroy or prevent the worms from injuring the peach tree. For many years I have preserved the few trees in my garden from the worms, by taking away some of the earth from the body of the tree, and putting fresh wood ashes in the place, and a little higher against the tree. When I performed this in the spring, May or June, and again in early autumn, September, the worms have not injured the trees; and the ashes have been a useful manure. The *yellows* is complained of at Poughkeepsie, New-York, and in New-England. It has not appeared here. The severe cold winters and the peach worm are the injuries suffered here. Respectfully yours,

Schenectady, June 28, 1841. D. TOMLINSON.

Improvement in Shingling.

MESSRS. GAYLORD & TUCKER—It is known to every person of observation, that shingles composing the roof of a building, first give way around the nail, owing doubtless to the water penetrating by the nail hole. In the erection of a barn this summer on my farm near this place, it was a matter of some consideration with me to remedy this effect. I adopted the following simple, cheap, and I believe *efficacious* plan. I have mentioned it to a number of experienced workmen and gentlemen of judgment, and they coincide in one opinion of its advantages. I have therefore thought it a duty to communicate through the medium of your paper, that others may be benefited by its adoption. The plan is this. The workmen, when shingling, have a small tin cup suspended at their breast, by a string passing around the neck—into the cup is put a portion of white lead ground in oil, of the consistence as taken from the keg of the manufacturer; as the workmen handles the nail, he dips the point into the white lead, to which a portion adheres; when driven, the white lead is forced up as the nail passes in, and completely fills up the hole, and the head of the nail is imbedded in the paint, thus preventing the penetration of the water by the nail hole, and the corrosion of the nail head. The progress of the workmen is very little retarded by the operation. A keg of 25 lbs. will do for about ten thousand shingles. The same process will do for sideing or weather-boarding, and indeed in every instance where the nail is exposed to the weather.

JAMES L. BOWMAN.

Brownsville, Pa., June 25, 1841.

Simple Cure for Cough in Horses.

Two years ago one of my carriage horses had an extremely bad cough, which had continued for six or eight months; different applications were made without effect. I applied to a man who I knew dealt in horses, and had paid some attention to their diseases for a remedy. He at once told me that he had never found any thing so effectual for a bad cough as human urine, given a few times, by discharging into a bucket of water and letting them drink it, or on their food and eat it. I directed my driver to do so, and in one week the horse was completely relieved. I have frequently had it tried with the same good effect.

J. L. B.

Analysis of Grain, Roots, &c.

We invite the attention of the reader, and of our scientific ones in particular, to the remarks of Mr. Garnett, in the annexed letter, on the subject of a chemical analysis of the principal roots, grains, grasses, &c., grown in this country, with a view of testing their comparative value for the purposes of nutrition. There can be no doubt that climate and soils have a very great influence in determining the value of plants for the purposes of food, and it has long appeared to us that a competent chemist could hardly perform a more acceptable service for the country, or one that would reflect more credit on himself, than by making an analysis of the principal *American* plants and vegetables cultivated for food. As Mr. Garnett has well remarked, the analysis of Sir H. Davy entirely omits some that are of the greatest importance to us; and though no analysis can be considered infallible, yet the science of chemical analysis, and particularly that relating to vegetable physiology, has made such advances since Davy's time, and so many new matters have been introduced as subjects of culture, that a re-examination of his positions, and the analysis of the important plants omitted by him, seems very necessary and desirable. We hope some of our scientific friends will take this matter into consideration, and, if possible, add to the favors they have already conferred on the agriculturists, such an examination and analysis as the value of plants demand.

Messrs. Gaylord & Tucker—It is well known to all farmers and gardeners that a great number of the plants which they cultivate, will so mix together, if sown or planted near each other, as soon to lose their distinctive qualities, and materially to injure one another. Some of the species of each genus and all the varieties of the same species will thus mix, and it requires much labor and trouble to prevent it. Hence it is an inquiry well worth making, whether it would not be best for every farmer and gardener to dispense entirely, in his own case, with the culture of several of the varieties of each species,—if not with some of the species themselves, since the former at least, differ so very slightly in taste and other qualities, that such differences can hardly be considered equivalent to the extra trouble and labor of keeping them all separate and distinct. This is true of garden peas, beans, water and musk melons, cucumbers, cymlins, pumpkins, cabbages, turneps, and many others which it is needless to enumerate. It is likewise true of the different varieties of grains, and other plants generally cultivated in the large way for revenue, as well as food for ourselves and our farming stock.

There may possibly be situations in which some one species or variety might suit much better than others, but surely there can be none where all will suit equally well; nor can these differences of situation probably be so numerous, under the same parallels of latitude, as to constitute a majority of cases, and thereby make it necessary to continue every where to cultivate all the varieties of garden and crop plants now known to us. Seedsmen are interested in encouraging this notion, but no other persons. I will endeavor to make my meaning plainer by taking the single instance of the garden pea. Having tried almost every variety, both of the early and late kinds which, for many years past, have been sold in our seed stores, and some of which, although very good, are no longer mentioned in their catalogues,* I believe I may safely affirm that the nicest palate cannot distinguish any difference in the taste between the different varieties either of the late, or of the early kinds. And if a regular succession is all we seek by sowing so many sorts, we might easily attain it, simply by sowing only one kind at different times. The only quality, therefore, which seems to be worth seeking in any of the varieties is, *superior productiveness* of nutritive food. A few comparative trials, if accurately made, might suffice for this, and then much trouble and labor might be saved in the almost impracticable attempt to prevent injurious mixtures. The same may be said of all the other plants I have enumerated, both for the garden and our staple crops.

The foregoing considerations induce me, most respectfully, to make a proposal to your numerous correspondents, by a compliance with which, I am very sure (if I may judge by myself,) they will greatly oblige a large portion, if not the whole of your readers. It is, annually to make small and accurate comparative trials between all the most popular vegetables in field and garden culture, with a view to report the results to you, together with a statement of the climate and soils in which the experiments were made, as well as of all other essential particulars. These communications would induce many others to make similar trials, by which means we should all be soon able to ascertain what varieties each of us could most advantageously cultivate, instead of having to depend, as most of us now do, upon the recommendation of persons who have a pecuniary interest of their own to promote by it. Hence the numerous humbugs of which we read such frequent complaints in our agricultural papers. Hence also the fears of deception, which often attend the introduction of new, but highly useful plants,—new at least, in many extensive districts of our country. All this would probably soon be prevented by such reports as I have here taken the liberty to recommend, for they would be made, in almost all cases, by persons having no other interest in them, but that which was common to all.

And now, gentlemen, if you will not deem me too officious, I will make another proposal to yourselves, which would greatly enhance the value of such communications as I have ventured to recommend, if you would comply with it. This proposal is, to procure for publication, from some of your scientific friends in Albany, or elsewhere, an accurate analysis of the different roots and other plants which are food to our stock. The only thing of the kind which we now have, is, Sir Humphrey Davy's "*Table of the qualities of soluble or nutritive matters afforded by 1000 parts of different vegetable substances.*" And to this, all who write on the subject are obliged to refer, although, for aught they know to the contrary, the same substances may yield very different proportions of nutritive matters in our soils and climates from what they do in England. Add to this, the table itself is defective in several particulars, at least for our use. Thus, many grains, grasses and roots are altogether omitted; for instance, Indian corn, broom-corn, and rice, the burnet, the Guinea, the Gama and striped grasses, and the sweet potato and Jerusalem artichoke; neither is any notice taken of pumpkins, squashes, cymlins and apples, all which are much used in some of our States, for feeding stock. Again, the table gives the various proportions of nutritive matters contained in the different varieties of wheat only, although Sir Humphrey himself shows, in another part of his work, that the varieties of the potato differ nearly or quite as much, in that respect, as the varieties of wheat; and so, probably, do the varieties of all the other plants which he has enumerated. Lastly, in the column headed "Mucilage or starch," he gives only the aggregate of the two substances contained in each of the vegetables noticed in the table, although mucilage and starch are very different things, and differ much in their nutritive elements, as may easily be seen by reference to almost any of the standard works on chemistry.

The foregoing remarks are offered, not with any design to detract from the great and well-merited reputation of Sir Humphrey Davy's excellent work; for it is of far higher value to the agriculturist, than any thing of the kind that has ever yet been published in this country; but simply in the hope that they may induce you to favor my proposal. If one or more competent chemists could be persuaded to prepare such a table as I have suggested, we should at once have a standard by which we might soon settle most of the numerous controversies relative to the comparative value of different vegetables for feeding stock, with which our agricultural papers are too often filled, and with very little profit either to the authors or readers of them. Some, without doubt, would still appear, for nothing probably will ever materially diminish that numerous class of persons who are much too wise in their own conceits, to pay any regard to the opinions and experience of others. But the great majority of our brethren being sincerely desirous to improve in the science as well as the practice of their profession, would gladly, I am confident, possess themselves of such a table of reference, for it would save them much time in making those comparative trials in which many of them are frequently engaged, to ascertain the most nutritive of all the different grains, grasses, roots and other plants with which they feed their stock. Another advantage in possessing and using such a table would probably be at least to diminish, if it did not entirely extirpate that senseless prejudice against books on husbandry, which too many of them still entertain; for when they found the statements of the table verified by such trials as an examination of it might induce them to make, they would readily perceive that it contained much more than what they had been accustomed to consider as mere fanciful theory; and they would thus gradually be tempted to read and study something else in relation to their profession. In a word, they would soon be convinced that the work of the head, aided by books, is quite as necessary as the labor of the hands to make an accomplished agriculturist. Without a regular, persevering resort to both we can no more expect to reach the first rank in our profession, than to live without food or drink. But if we will thus occupy ourselves, and with a degree of zeal proportioned to the importance of the objects at which we aim, although we may not reach the highest rank, we may confidently hope not to be far short of it. Could all of us be only actuated by this highly laudable ambition, how immeasurably different would be the estimation in which our class would be then held by the other classes of society, and how much more worthy should we be of being called, as we sometimes vainly call ourselves, "the bone and sinew of our country!" There would soon be scarcely a man left in our whole brotherhood who would not feel in his inmost heart the truth of the following admirable sentiments expressed by Sir Humphrey Davy in the conclusion of his Agricultural Chemistry. "Nothing," says he, "is impossible to labor, aided by ingenuity. The true objects of the agriculturist are likewise those of the patriot. Men value most what they have gained with effort; a just confidence in their own powers results from success;—they love their country better, because they have seen it improved by their own talents and industry; and they identify with their interests the existence of those institutions which have afforded them security, independence, and the multiplied enjoyments of civilized life."

And now, gentlemen, heartily wishing you all the success that your laudable efforts in the cause of American husbandry justly deserve, I remain, yours, with regard,

JAMES M. GARNETT.

P. S.—Perhaps some of the vegetables most in use for our stock, have already been carefully analyzed by competent chemists. If so, you yourselves could soon prepare a highly useful table, provided those gentlemen would be kind enough to send you the results of their experiments.

June 26th, 1841.

* The Spanish Marollo or Maratta is one of them, being the most productive and lasting that I have ever tried of all late varieties.

Cotswold Sheep and Hereford Cattle.

Messrs. Gaylord & Tucker—I regret that I did not receive this communication before; it has been in the Watertown post office with many other letters until now. I have one also in answer to the attack made on our breeders by Messrs Hepburn and Randall, which I will send you at some future period. *Time will prove what facts will do, even when disputed by influential men.* I have written an article on sheep breeding, but have not sent it you, as I began to lack in spirit, finding that *good things* were not appreciated as they ought to be by men who say they value their country, and make its welfare their study as *breeders* and *farmers* should do. Mr. Cother's name may be found in the Farmer's Magazine, as winning prizes for cross bred animals, at the Royal Agricultural Shows, and at other societies; and a man well known in England by all breeders of stock. Yours sincerely,

WM. H'Y. SOTHAM.

Middle Aston, Oxfordshire, Feb. 1st, 1841.

Mr. W. H. Sotham—I am happy to inform you that our Ram season closed very satisfactory for the breeders of Cotswolds; their superiority is acknowledged by the extraordinary demand and the high prices given for them, which is easily accounted for by their being much better sucklers, maturing earlier, producing more lean and heavier fleeces, than the Leicesters. Their fame is now spread far and wide, and I expect in a very few years, that nearly every long wooled flock in England will be "alloyed" by Cotswold blood.

The heifer you call Eliza, is not by Young Sovereign, but by Favorite, jr., a son of Fitz Favorite. Fitz Favorite was by Favorite, the sire of Old Sovereign, and the latter was the sire of more prize beasts than any other bull of his day, and was a remarkable instance of successful in-and-in breeding, being the produce of a mother and son, the pedigrees of which can be given if required, for a period of more than forty years; and I would add that the dams of each of the bulls I have named, were pure Herefords, the pedigrees of which can be given with equal accuracy. The dam of Favorite, jr., I knew well, and it is my firm opinion that I never saw ten so good.

This, I should hope, would be sufficient to satisfy the most sceptical as to the purity of her pedigree on the male side. Her dam was bought of Messrs. Brown and Lion, the great north-country cattle dealers, and was purchased by them at Darlington, in the county of Durham. It was fortunate you did not have her sister, as she has cast her calf.

The whole of my 3 years and 9 months old steers by Favorite, jr., grazed on my inferior land, and finished with £3 worth of oil cake each, have made this Christmas £41 a piece, a price which I am of opinion very few pure Short-Horns or Herefords have arrived at, in the same time, and under similar treatment. These were the second cross from Short Horns, with a pure Hereford bull each time; a cross I do not by any means recommend you to adopt. You are in possession of some of the very best Hereford blood this country can produce, (a few of the heifers are perhaps a little too much in-and-in bred,) and all you now require is a couple of first-rate bulls, with the addition of a few heifers of *different blood to make proper crosses with*, to start you as a first class Hereford bull breeder;—and depend upon it, that your neighbors will ultimately discern that they can live harder, work better, feed equally quick, if not more so, and produce a stall of meat superior in quality, with a less quantity, of course, than the Short Horns, and milk as well as the highest bred animals of other kinds. In short, I believe, they will pay more money for the food they consume than any other breed, in which opinion many of the most eminent graziers agree, some of whom reside *in short horn districts*, and travel nearly 160 miles to the Hereford fairs to buy oxen,—a distance unparalleled by graziers in search of cattle of *any other kind* in this country.

I advise you to breed pure bulls, and let others cross for the shambles, and in so doing I think each will benefit his country as well as himself.

Hard things, indeed, may justly be said of some cattle wearing white faces, and with equal truth it may be observed, that there are many very bad ones of beautiful roan, and spotted color, with short horns; such are frequently good milkers, and so are the Herefords, which are low bred, and of bad form. I imagine that Mr. Youatt and others who have designated the Herford cow "an inferior animal," could not have done so from actual observation, for it so happens that in symmetry of form, with substance and quality combined, a more beautiful animal (of her species) cannot be found in Britain. Nor can it be very pleasing to owners of such superb animals as are very many of the Hereford cows, to have them so denominated in what is called "a standard work on British Cattle;" nor do I think such an opinion (*libel*) ought to go uncontradicted, given as it must have been, (one would suppose) from information, and not from occular demonstration.

However "*astonishing*" it may appear to Mr. Randall, that the Herefords on the Gloucester Hills "should have escaped the *notice* of Mr. Youatt six years since," they were located there long before that period, and in many instances cows and heifers have been known to weigh from 15 to 19 scores per quarter, (when dead,) [exclusive of hide and tallow,] and the oxen from 20 to 28 scores per quarter.

A Hereford steer and heifer, both bred in the parish of Northleach, Gloucestershire, fed in the county of Wilts, and slaughtered at Oxford this Christmas, the former under 4 years old, weighed nearly 18 scores per quarter, and the latter 3 years and 6 months old, more than 17 scores per quarter.

I now take my leave of the "lady-like" females, for the purpose of pursuing their 'lordly' sons to the Smithfield Club Cattle Show, where the tug of war is annually kept up between the two contending breeds. Of their extraordinary fame there, let the annals of the Club testify; but I would observe by the way that they are by no means well represented there, in proof of which, a great number of graziers of high reputation, viz. Messrs. Rowland, Lidbrook, Terry, Hewett, Manning, the three Pains, Bull, and many others equally noted, who are purchasers of a large quantity of the very best steers Herefordshire produces, seldom, if ever, exhibit an animal; the reason of which as some of them have stated to me, is, "that winning a prize entails a certain loss," while the breeding and feeding of them is almost neglected by wealthy owners of the soil.

Not so with the Short Horns; they are reared, fed, and shown under the fostering care of the Marquis of Exeter, Lords Spencer and Brownlow, Sir Charles Knightly, and other oppulent men to whom expense is not an object. In making these observations, do not suppose that I wish to detract any thing from their merits; on the contrary I consider them a credit to their noble owners. But I cannot pursue this subject further without transcribing the opinion of an eminent breeder, Mr. Bates, of Kirkleavington, Yarm, Yorkshire, whose cattle bore away nearly all the short horn prizes from Oxford. He says, at page 426, Farmer's Magazine, for Dec. 1840:—"I visited Hereford about 50 years ago, and was then, and continue still, an admirer of the best variety of cattle (Herefords.) But I consider now, and have for above 40 years, been convinced that *the very best Short-Horns (which are only a few,)* are capable of improving all other breeds of cattle in the United Kingdom, as well as the ordinary Short Horns, which are far from a good breed, *and inferior to the Herefords, Devons, and others.*" And so would any *moderate judge* of stock conclude from taking a survey of Smithfield market at Christmas, (where and when some of the best of nearly every kind are pitched,) the Herefords reigning paramount to any other breed, in numbers and quality combined, making *more money per head*, than a like number of any other variety.

Should the position I have taken be doubted by any of your American opponents, I would say to such, come and see, and do not be satisfied with a view of a few *inferior* of their kind, but go home to the *best* breeder's houses, where they will meet a hospitable reception and a hearty welcome, and will find such animals as are worthy of a place in a herd-book; but in the absence of their names and pedigrees in print, their own good qualities will be found a sufficient passport.

It may be asked what reason can a man find for resorting to a cross breed who so extols the Herefords? The question is solved in a few words; I was resolved to breed rather a large size, and it being difficult to procure large, well-bred Hereford cows, except at very high prices, (and not having a long purse) I preferred as good Short Horns without pedigree, as I could procure, rather than Herefords, under the like disadvantage, considering (with the "Alloy" in my mind's eye,) that by so doing I should procure a rent-paying, though not a bull-breeding stock, and I have much reason to be satisfied with the steps I took at that time, since which I have added some well bred Herefords to it, and am now in possession of one bull by Cotmore (the Oxford pet,) and two others embracing the blood of Old Trojan and Old Sovereign in a high degree, which I think would be as likely to do good in America, as a very near relative of the two latter has done in Scotland, a son of which won a prize in London this Christmas.

I should deem it impossible to get up a Hereford herd-book here; the breeders are so satisfied of the *superiority* of their *own* breed that they are at *perfect ease* on the subject; but I advise you to have a well authenticated pedigree with every bull you breed, and commence a herd-book of your own.

Mr. Wm. Hewer's Major, the sire of most of your heifers, won a prize at Farringdon, beating a number of Short Horns, and at Cirencester he did the same. Major, and a daughter of Sir George, and his (Major's) son, won the prize for bull, cow, and offspring; a daughter of Old Sovereign, winning another prize as the best breeding cow. And a bull calf, 10 months old, by Major, won another prize as the best under 2 years old, and here also they came in competition with Short Horns. *Will it be asserted again* that "on the bleak highlands of Gloucester, no breed has been cultivated with any very marked success?"

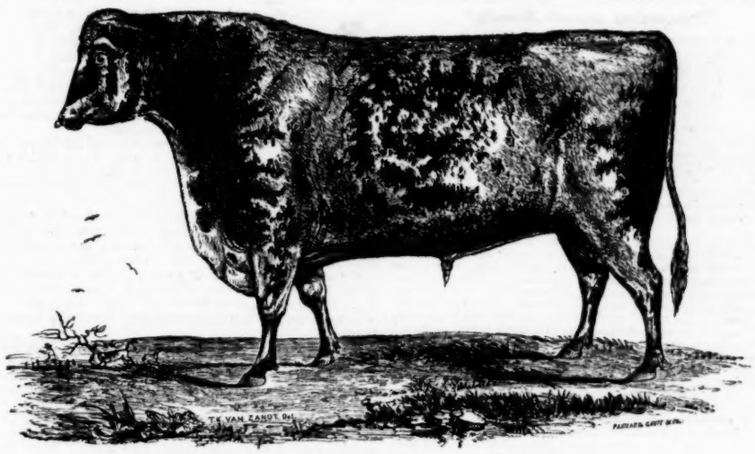
I say it has been for 20 years, and can *prove* it, and I say more; *no man has a right to injure another by an assertion he cannot prove.* These may be considered hard words, but they are just ones; used only for the purpose of correction, and not intended to give offence.

My three fat ewes which you saw, were killed at Oxford last month by Messrs. Greening, Aldew and Barr, and weighed respectively 228 lbs., 183 lbs. and 154 lbs.

Your friends and acquaintances are all well, many of whom speak anxiously of your success, which I sincerely hope may exceed your most sanguine expectations, nor do I doubt it, for I consider you have fixed on the breeds of cattle and sheep well suited to the rigor of your climate; recollect Devons are natives of a much warmer country than are the Herefords.

Yours truly, WM. COTHER.

Orchard Grass in Tennessee.—A gentleman residing 30 or 40 miles below Memphis on the Mississippi river, has made experiments on blue grass, clover, timothy, and orchard grass. The first three did not succeed, but the orchard grass, he says, was as fine as his eyes ever saw any where. It is very luxuriant, and though but three-fourths of a bushel of seed was sown to the acre, completely sodded.—*Louisville Journal.*



IMPROVED DURHAM BULL, NERO.—[Fig. 69.]

Three years old, owned by E. P. Prentice, Esq. Mount-Hope Farm, near Albany.

Feeding Cows, &c.

MESSRS. EDITORS—I observed in your May number, a reply to some inquiries as to the "best and cheapest manner of feeding milch cows." I would direct the attention of your inquirer to the use of oil cake, either by itself or mixed with other feed. I have used it myself to great advantage in both ways; and am persuaded it is one of the best (and taking results into account) one of the cheapest kinds of feed for cows at least; and perhaps also for hogs and sheep. On this point, however, I cannot speak from my own experience, but my neighbors who have tried it, speak well of it.

My own practice is to grind equal quantities of Indian corn on the cob, oats, and oil cake together, and give my cows a mess at night and morning while at pasture, and three times a day when not at pasture. I think it the best plan to grind the oil cake and break the corn and cob first, and then mix them all together and grind them. In this way they are more intimately incorporated together, and are better than if ground separately and mixed afterward. I have found that cows fed in this way will give from one quarter to one third more milk and of a much better quality, than if fed in the common way. I have made from one cow kept in this way, 25 lbs. of butter of very superior quality in the last month. One of my neighbors has used the oil cake meal with chopped roots (turneps, beets, &c.,) or corn stalks, and found it to answer a good purpose.

Much prejudice against it exists in the minds of some, from a supposition that it makes the milk oily or of bad flavor; but this is a mere notion. I have known persons so prejudiced, so completely deceived with milk of cows fed upon it, as to assert that such milk could only have come from the best of pasture, and could not be from cows fed on oil cake. If fed *wholly* upon it, as is sometimes done to fatten cattle rapidly, I have no doubt that the milk would taste of it; as is the case with turneps and some other feed when used solely; but that it may be used very liberally not only without detriment, but with decided advantage, both as respects the quantity and quality of the milk, I am satisfied.

Again, the cost is objected to by some, as it is generally rather higher than other feed; but this is only true as regards its first cost; taking its effects into the account, it will be found considerably cheaper than other feed. Of this, I am further convinced by the fact that the demand for it in England is such, that the greater part made in this country is exported there, where it sells at a much higher price than it does here.

I should say for the benefit of those of your readers who choose to try it, (and I hope a number of them will, and give us the result of their experience,) that cows when first fed with it, should be so more sparingly than those that have been accustomed to it, particularly if near calving; as it is sometimes injurious to them in large quantities at such a time.

I am glad to see that farm houses, barns, &c., continue to interest your readers so much. I hope you will be able to furnish us many more plans. Of those already given, there is much to approve; but the ne plus ultra of a farm house has not yet appeared. It would indeed require an amount of practical knowledge of farming and of architecture which few possess, to produce it; but as it is not an impossibility, the difficulty instead of discouraging us, should only stimulate to further efforts. Although I do not feel competent to furnish a plan, I would furnish a suggestion or two which may be useful to other projectors. A farmery, to be *complete*, would necessarily be so extensive and comprise so many out buildings and offices, as to deter men of small capital from attempting it. It would therefore be of great benefit to devise a plan consisting only of such parts as were indispensable in commencing a farm upon a small scale; yet so contrived that the various out buildings might be afterward added as the means of the proprietor increased, in such a manner that they would all appear to have formed a part of the original design; and not have grown up by accident, as most farm buildings seem to have done. For this purpose, the plan should contain what is absolutely essential, fairly laid down; and the additions to be made afterward as taste or necessity required, designated by light lines, so as to show how the original would look by itself, and how the additions would harmonise with it. A little more attention also might be paid to picturesque effect, than most of the designs already furnished, evince, without increasing the cost materially, or lessening their utility. A little study of the English cottage or rural gothic style, would assist an architect in this department. Some good hints on this, may be found in Downing's Landscape Gardening and Rural Architecture, just published; and various English works which have appeared within a few years. LONG ISLAND.

Landscape Gardening.

A desire to indulge in a passion with which I am strongly impressed, for practical improvement in Agriculture, and its handmaid, Horticulture, and a desire to impress others with a like passion, induces the following remarks on a late publication, eminently calculated to confer great public utility.

Without puff, or any previous intimation that I can learn, there has just come forth from the press a desideratum—"A treatise on the theory of Landscape Gardening, with remarks on Rural Architecture, adapted to North America, by A. J. Downing."

I presume the author of this beautifully written and beautifully executed volume, was much influenced by the laudable enthusiasm of doing good, for he leaves the book to make its own way to public favor and patronage. If merit can win favor, the publisher will have no occasion to call on his employer to make up deficiencies.

If to do the work on a garden, to erect a building, to lay out a plantation, it be essential to taste or profit, that it be done well, it is clearly essential that the operator be skillful, be master of the business he would undertake. Mr. Downing's work is the true key to this knowledge, and the man who has but one acre of ground will find his advantage in a careful perusal of this work. How much more valuable must it be to the owner of one hundred acres? This book is ornamented by a beautiful steel engraving as a frontispiece, and is interspersed with a large number of well executed wood cuts of buildings, decorative trees, as fit accompaniments to the dwelling-house, beautifully laid out grounds, the formation of artificial waters, and the flower garden, &c.

> "In the sweet scented pictures, Heavenly artist,
> With which thou paintest Nature's wide spread hall,
> What a delightful lesson thou impartest
> Of love to all!"

Throughout the work are given plain, pleasing, and occasionally fascinating descriptions and directions for executing the presented views.

It is an error in laying out and managing lands, as in almost all pursuits, to adhere rigidly to antiquated practice, as if every system was born in perfection and was incapable of improvement.

It is a gross and lamentable error, to suppose that a few shillings or a few dollars expended in the purchase of books, is so much thrown away by those who already know *all that is needful*.

There is much to be gained by a correct and tasteful method in building and ornameting grounds, and much to be lost for the want of it, and so of human pursuits generally, extravagant expenditure is not necessary, extreme niggardness is not economy; be "profuse of genius, not profuse of gold."

If the land owner when about to build, whether on a large or small scale, would avail himself of the instructions contained in this fascinating book, he would find convenience and graceful strength in his buildings, the greatest pleasure from his garden and ornamented grounds, and lasting and growing satisfaction from the well-designed connected beauties of the whole, in a greater degree and at little more expense, than can be procured from unskillful design and uncalculating economy.

Lansingburgh, July, 1841. A. WALSH.

Upper Canada.

MESSRS. EDITORS—As your valuable paper has a fair circulation in this Province, and as that circulation is rapidly increasing in this Township, you will perhaps devote a small space in its columns to make known to the friends of agriculture and the breeding of stock, that in this District the farmers have taken advantage of the liberality of our government, (who furnish double the amount of any private subscriptions) and have formed an Agricultural Society, having for its object the importation and improvement of farm stock and produce, the improvement of tillage, agricultural implements, &c., the encouragement of domestic manufactures, of useful inventions, and generally of every branch of rural and domestic economy.

A meeting of the Society will take place at this town on the second Wednesday in next October, when will be exhibited a perhaps somewhat small, but very choice stock of Durham and Devon cattle, Leicester and South Down Sheep, Berkshire, Hampshire, Shropshere, Montgomeryshire, Improved Yorkshire and other pigs. There will doubtless be many horses shown, but I very much doubt there being any really good ones. I have heard of some of your high spirited countrymen visiting such exhibitions in this Province; if any of them will favor us with their presence, they may rely upon courteous treatment. It may be proper for me to add that Guelph is situated about 30 miles from Port Hamilton, at the head of Lake Ontario. I am, gentlemen, your obedient servant,

JOHN HARLAND,

Guelph, U. C., July 9, 1841. *Secretary to the Society.*

The Hessian Fly.

MESSRS. EDITORS—I observed in your last (June number,) a communication relative to the Hessian Fly, the writer of which endeavors to confirm the opinion adopted by Miss Morris of Germantown, that the ovum is deposited in the grain before it is harvested.

The article in question contains many judicious and valuable remarks, evidently evincing that Mr. Mines has closely observed much that is essential in the culture of wheat. But however plausible the theory that the egg is deposited in the grain, it is not borne out by my own experience, and facts that have come under my observation.

It is now about 60 years since the Fly made its appearance in this country, being first discovered, (in its "flax seed" state,) on the farm on which I now reside, and on one about a mile and a quarter distant, then owned by Rem Adriance. The Hessians had previously been quartered in the neighborhood. The introduction of the Fly was ascribed to them, and it was asserted, from what was then considered good authority, that the insects then existed in Hanover, or in the north of Germany. Hence the name.

I am aware this has been denied; it having been said, inquiries instituted resulted in the conviction that the Fly was not known in Hanover.

At the time of their discovery here, each of the farms in question contained a piece of wheat damaged by this insect. It is probable they had been introduced a few years previous, and that their number was augmenting rapidly, though unobserved. This, however, was the first miss crop which they were known to produce.

More than 40 years ago, I had a small piece of winter barley, sown, however, in the spring, in which not a single stalk headed, on account of the bug. I counted over 140 of the insects in a single stalk, some of which, in consequence, grew at the joints as thick as a man's finger.

From 60 years' observation, I am led to the conclusion that the *seed* is deposited in the *plant* soon after it comes up. I will relate a single experiment as proof that the egg is not deposited in the grain. About 40 years ago, I procured two bushels of wheat from the Genesee country, then an "uninfected district," which I sowed adjoining seed of my own gathering. Both pieces were severely damaged by the Hessian Fly. This, to my mind, was conclusive proof that the *seed* was deposited in the plant during the progress of growth, and not in the grain of the preceding year.

A few years since I soaked my seed wheat in strong pickle, and it grew comparatively free from the bug. In 1839, I again tried the experiment, but not with similar success. Last year I sowed without soaking, and my crop is uninjured.

I believe with Mr. Mines, that in order best to avoid the insect, much depends upon the time of sowing. This will vary with the season. The best time for sowing in this latitude, is commonly from the 25th Sept. to the 10th Oct. The Fly is usually by this time either killed by a sharp frost, or driven from clean fields by heavy north and west winds. They make their appearance again in the spring, and in late sowings, where the plant is quite small, deposit their eggs. Hence the necessity of avoiding either very early or late sowings.

It was formerly my practice to sow both winter and summer barley, besides rye and winter wheat. The winter barley and wheat were always most affected with the Fly. The reason is obvious. They grow somewhat differently from the others' their leaves when small, concentrating more, thus affording the insect a better opportunity to deposit its seed.

One more fact as proof that the ovum is not deposited in the grain. I have uniformly found my grain most affected in spots,—usually near the edges of the field, where long grass and weeds grew, which afforded shelter and protection to the Fly.

Brooklyn, N. Y. June 21, 1841. GARRET BERGEN.

Weight of Hogs—The Byfields.

MESSRS. GAYLORD & TUCKER—I observed in the last number of your paper, the weight of Berkshire and Woburn pigs. Some few years ago, a friend of mine from the County of Orange in this State, sent me two small pigs, male and female, of the Byfield breed. The male I have yet; the female was run over by a train of cars when she was two years old, giving suck to 6 pigs; she then weighed 300 lbs. nett, and I suppose if she had been fattened, would have weighed at least 400 to 500 lbs. I gave, the 6th of July, to two of my servants, two pigs of the half breed. One of them was my miller, and I suppose he gave him as much as he would eat of corn meal, &c.; the other was given to my blacksmith, which was fed upon bread crust, parsley, squashes, cabbages, and sometimes a little corn. They were killed at six months old—the miller's weighed 163 lbs. nett, and the blacksmith's 173 lbs. nett. They were one month old when I gave them to them. I gave my brother and a nephew, two of the genuine breed, a male a piece; they killed theirs last year; my nephew's weighed 373 lbs. nett, and my brother's 343 lbs. nett. My brother has the Berkshire and the Surry, and he says he is sorry he killed the Byfield. My nephew who is the most successful farmer in my neighborhood, and who you see the Editor of the Southern Planter mentions in one of his numbers (Mr. Edward Winsted,) is so pleased with them that he says he prefers them to any breed he ever had. I had about 30 years ago, two Spanish hogs, which my brother brought from Cadiz, which I liked very much. Yours respectfully,

Taylorsville, Hanover Co. Va., 1841. W. D. TAYLOR.

Inquiry.

MESSRS. EDITORS—I should be pleased to see in the Cultivator an explanation of the causes which produce a premature decay of the head of our common June grass, *Poa pratensis*. I have observed it in many meadows and fields the present season, and in some cases, there dead heads were so frequent as to change the color of the whole field. The head of the grass does not, however, look ripe, but dead white, and has evidently been killed before maturity. Last year, it was said a worm like the Hessian fly worm was the cause, and was to be found in the grass. I have examined many this spring, but can see none. The grass generally dies at the first or second joint from the top. A. B."

CURE FOR MURRAIN.—This terrible epidemic, which has caused so much loss in Britain and on the Continent, has at last reached Ireland, and according to the Durham Advertiser, a priest near Muff, in Westmeath, is converting the calamity into a profitable speculation. "He sells 'blessed salts' as a preventive and cure at 2s. 6d. to comfortable farmers, 1s. to the poorer class; but the priest says they are of no use to any cattle but those whose owners purchase direct from him. The deluded people are sending sixty or one hundred miles for this miraculous sulphate of soda."

SHEEP WITH FOUL NOSES.—The Am. Farmer says:—Make a small mop or swab, by wrapping a rag about the end of a stick—dip this in tar, taking up as much as will adhere to it—roll this in salt, and then thrusting it into the sheep's mouth, hold it there till he is forced to withdraw and swallow the tar and the salt, and your sheep will soon get good health and clean noses.

On Bees—No. 4.

A swarm of bees weighing seven pounds when hived, should not be compelled to warm more than one bushel of space by their animal, or rather insect heat. As "the condition and perfection of the brood combs, and young broods in a hive of bees determines its success and profit to its owner," the attention of the Apiarian must be most scrupulously directed to this point. When bees are compelled to warm *more* space than is necessary for their convenience at work, the young are liable to a chill; and if they escape death, are feeble in their best state, under such circumstances, and the family of bees frequently dwindle away, and leave their feeble young, dead larvæ and chrysalis to the merciless depredations of the moths, while the meager and scattered remnants of their reduced colony join in, and unite with the bees of other hives. If a swarm of bees weigh over seven pounds at hiving, the drawers in the upper apartment furnish a ready means to enlarge their tenement by admitting the bees into such portions of space as their number require; and this depends very much on the state of the weather; if very hot, more room is required: the bees show this by leaving the boxes of honey as the weather grows cool. Ten pounds of bees should be allowed all the space contained in boxes which fill the upper apartment or chamber of the hive which should hold a half bushel. All families of bees weighing less than seven pounds at swarming, should be doubled in with each other, until a good swarm is collected, and their numbers increased to correspond with the space allotted them. The perfect bee hive in all the classes is admirably calculated for these purposes. When the bees increase in number beyond the capacity of the swarming hives, the collaterals are added as the increased population of the bees demand; and here it should be remarked, that if a non-swarmer is extended, the collateral box should be added first, even before the bees are admitted into the chamber drawers. When the collateral box is filled with bees, the thermometer will determine the time when more space is necessary for their accommodation, or the manager may determine the appropriate time to admit the bees into drawers, or boxes, by glass windows covered by doors or slides. If swarming, non-swarming, or dividing off swarms is designed, the thermometer only will govern the Apiarian so that the bees will raise the heat of the hive to swarming temperature, or the manager can ventilate his hive in such a manner as to reduce the heat of the bees below 100°, and prevent swarming. If the thermometer falls below 40° at any time during the breeding season, the cause should be eagerly sought and the remedy quickly applied, to save the young broods from a chill; want of honey may be the cause, or too much ventilation, or too much space allowed. Half starved animals or insects are incapable of engendering a healthful animal heat; and this is the only most healthful heat for bees. One of the most prolific causes of death among the bees, is want of healthful animal heat, emanating from their too thinly populated body, occasioned by too much space allowed, which compels the bees to keep warm rooms, other than those they occupy, or a too thinly populated community. Who among us is there, that would think of keeping our children and infant *babes* warm in a cold day, by kindling a fire on the hearth and set the doors and windows open? As the successful culture of these little insects so much depends on this point, it is hoped my agricultural and philosophical readers will not be impatient while the subject is considered a little more in detail. Animal heat in cold winter weather, is as necessary to preserve the health and lives of the old bees, as it is in summer to preserve the young; the only difference is, old bees will endure a lower, or cooler temperature than young ones; but after all, the most prosperous and healthful stocks will keep up a constant buzzing noise in the hive, as in summer, in the coldest weather in the winter; moreover, no moldy combs are found in such hives, nor moths to injure the stock, nor dead young bees, nor feeble ones, nor *stingless bees*, which is a sure indication that they were chilled while in the chrysalis state. In short, the whole stock exhibits the strongest marks of strength, health, vigor and wealth. They swarm early in the season, and are able to take the best possible advantage of the early as well as later yield of honey; but while we pass the rooms in garrets, small out-houses, bee palaces, and a variety of hives, houses, &c. designed to keep bees in, without remark, it will not be improper to prescribe remedies for some of the evils complained of. 1st. It is of the highest importance that the apartment occupied by the bees in the winter, should be well and abundantly stored with honey. 2d. That all communication to any apartment not occupied by the bees be stopped, so as to prevent the escape of animal heat. 3d. That the bees are so numerous that their animal heat will consume a great proportion of their vapor, and keep the honey warm, and combs dry. 4th. A good supply of pure air, unadulterated by fire heat, or any other impurity.

As it is proved beyond controversy, that two feeble swarms united in the fall, will consume no more honey during the winter than one when kept in separate hives, the practice of doubling and even trebbling the weak and thinly populated hives in the fall, cannot be too highly recommended, not only as a matter of economy in preserving the lives of all the bees, but also nearly half the honey they would have consumed. M. D. E. Gelieu, a modern French Apiarian, who has cultivated bees 64 years with the finest success, says, "he should regret leaving the world without making this discovery known to the public." The same Apiarian says that when he first tried the experiment by doubling his swarms in the fall, he supposed a double quantity of provision must be provided to prevent starvation. "The more mouths the more meat;" but on weighing all his hives in the spring following, found that his double hives had consumed no more honey than his single ones. The writer says, "I could not believe my eyes, but that there must be some mistake; nor could I be convinced, until I had repeated the experiment a hundred times over, always producing the same result." This interesting and intelligible Apiarian went on, year after year, following these experiments, until he wintered five families in a hive, which did not consume three pounds more honey than his ordinary hives. M. D. E. Gelieu closes up the account by experimenting on 36 hives, the result of which is, that the double swarms consumed 10 ounces more honey each hive on an average than his single ones. "All the facts in the case are inexplicable." "It is a question for philosophers!" "Does the animal heat make the honey more nutritive?" I think there cannot be a doubt that the best kept up in the hive by a more populous community, renders the honey more nourishing to the bees; moreover the animal heat is raised to that degree, that the bees are kept comfortably warm in the coldest weather, and less food is required. It is a subject of the highest interest to the Apiarian, as it unfolds new principles, and commences a new era in the life-preserving system which is so fast and so justly gaining ground in this age of improvement. Well might the Reverend and illustrious M. D. E. Gelieu express his surprise, "that in more than a thousand writers on bees, that a single one had never thought of uniting their weak swarms in the fall with stronger ones, and save the bees alive, and honey from waste." The advantages of this system of management are incalculable. To accomplish the objects set forth in the foregoing essay, together with all other facilities of managing bees in the best possible manner, my mind has been directed to the construction of a variety of hives, among which is the subtending hive, made as it should be. The method of doubling swarms in the fall for wintering, will be illustrated in my next number, objections removed, &c.

JOHN M. WEEKS.

Salisbury, Vt. July 11, 1841.

All letters must be post paid.

"Protection against Drouth."

Messrs. Editors—Under the above head, I have seen in some of the journals, an article copied from the Yankee Farmer, the first paragraph of which reads as follows:—"In tillage, the best protection against drouth that can be conveniently practiced to a great extent, is frequently stirring the earth, so as to keep it light and loose. In this way the earth at the surface is in many small particles, which serve as a non-conductor of moisture, and retains it below, where the roots obtain a supply."

The first part of this quotation is correct; the latter part is incorrect, and the fact directly the reverse, as indeed the writer himself demonstrates in the course of his article. This subject is one of so much practical consequence to the farmer, that with your leave I will make a few remarks upon it, as farmers and gardeners are not apt to perform labor in cultivating a crop, unless there seems good reason to suppose it will be repaid.

If there is any axiom in agriculture that will not admit of dispute, it is, that *the power of soils to absorb water depends on their fineness and friability.* This is equally true, whether the water is drawn from the earth by capillary attraction, or from the atmosphere by combination and absorption. It is true that frequently stirred soils give off water by evaporation more rapidly than that not stirred or made fine, but the loss is far more than balanced by the additional power conferred of acquiring it. The fact is, that because the stirred earth is a good "conductor of moisture," and prevents its remaining useless below, that hoeing plants is one of the best methods of counteracting drouth. Loudon says, "the power of the soil to absorb water by capillary attraction, depends in a great measure, upon the state of division of its parts; the more divided they are, the greater is the absorbent power." * * * * "The power of soil to absorb water from air, is much connected with fertility. When this power is great, the plant is supplied with moisture in dry seasons; and the effect of evaporation during the day is counteracted by the absorption of aqueous vapor from the atmosphere, by the interior parts of the soil during the day, and by both the exterior and interior during the night."

Chaptal says—"All soils have not the same affinity for water, which arises from their different degrees of tenuity, or the division of their particles, and from the nature of the substances which enter into their composition. In general, the more finely the parts of a soil are divided, the better they absorb water." * * * "The absorbing powers of a soil, have always been found to be in proportion to its fertility." To the same effect, I might quote Davy, Grisenwaithe, and Liebig, but this is needless, as the experience of almost every farmer has proved to him, that in dry weather the soil is moist in exact proportion to the frequency of its being stirred, and the consequent fineness or tenuity of its particles.

The pure earths or alumina, carbonate of lime, and silica, are bad absorbents, and require the mixing of vegetable or animal matters with them to produce this power. Chaptal arranges the power of absorption in the elements of a fertile soil as follows:—Vegetable substances, animal substances, alumina, carbonate of lime, and silica. Davy found that 1,000 parts of a soil celebrated for its fertility, and which contained more than half its weight of finely divided matter, gained in an hour, by exposure to a saturated atmosphere 18 grains in weight; while the same quantity of earth from a coarse, unfertile soil gained in the same time but 3 grains. These facts are demonstrative that the absolving and capillary powers of a soil are depending on its fineness, and that the reason why stirred earth is moist, is because its conducting powers are increased, not diminished by tillage or pulverization.

But the Yankee Farmer in the same article from which I have taken the above paragraph, has overthrown its own premises; and rarely have I seen a greater sacrifice of consistency in support of a theory, than is presented by the following extract, when compared with the latter part of the first quoted sentence. That paper says:—"Last season we cultivated a few acres, mostly dry land, and the drouth was severe indeed. Where the soil was frequently stirred, and kept light and loose on the top, there was a constant moisture a short distance from the top; but where the earth remained unmoved, it dried to a great depth. A narrow strip running across the piece, was left for turneps. On this the soil became dry below the ordinary depth of plowing, and the weeds were almost dead for the want of moisture, while at the side, weeds of the same kind in the edge of the plowed ground, were fresh and vigorous, and the soil was dry only a few inches on the surface."

What then becomes of the theory that tilled, or fine earth, serves as a non-conductor of moisture, and keeps it below? It is clear that the Yankee Farmer's practice is better than its theory, but all error in theory, has a tendency to lead to error in practice, to counteract which must be my apology for troubling you with this.

An Onondaga Farmer.

History of the First Imported Berkshires.

To Syday Hawes, Esq., are we indebted for the introduction of the now famous and popular Berkshire breed of hogs. It is well known in this section, that when he emigrated to this country in the fall of 1832, and settled on the farm I now occupy, called "Three Hills Farm," he brought with him three Berkshire pigs—one boar and two sows, since known by the names of "Jack of Newberry," "Peggy," and "Streatly."

Among the first who appreciated this superior breed of swine, were F. Rotch of Otsego, F. Booth of Ballston Spa, Lossing and myself, who obtained pigs of the first litters. It was not until 1834, however, when Mr. Hawes exhibited them at one of our Fairs, that they attracted much attention; and in fact, they were in so little demand, even in 1835, when I purchased them, which was in July, that most of his spring litters were still on hand, and the boars were altered with the intention of fattening them for pork.

If we are indebted to Mr. Hawes for the first importation of them, we are equally indebted to the Cultivator and other agricultural papers, for a more extended introduction and dissemination of them through the United States, where now the "land shads," "alligators," &c. are fast disappearing, and the round, plump and stately Berkshires are taking undisputed possession.

"Peggy," said Mr. Hawes to me, "was bought at Reading, Berkshire, of a laboring man." Peggy was Mr. Hawes' favorite sow, and from her some of our best Berkshires have sprung; and it is supposed "Maxima," the famous large sow, Mr. Lossing purchased of the Shakers, was a pig of hers. Peggy was in color a blue-black, with considerable white on her head, neck and body, and generally cast her pigs much lighter colored than either of the other imported sows. She was the smallest of the lot, but long in the body, small head, ears small and upright, legs short and medium size, hams remarkably large and well let down. I purchased her of Mr. H. in 1835, and slaughtered her in 1840. I have now a daughter of her 6 years old, got by "Jack of Newberry," that will weigh about 500 lbs., and for size of hams, I challenge the country to produce her superior.

"Streatly," continued Mr. Hawes, "was bought of a large farmer at Streatly, Berks, seven miles from Reading." Streatly was larger and longer than Peggy, of a jet black color, with a white stripe in her face, white feet, and some small white spots on her body. She was larger in the head and longer in the snout, ears longer and pitching forward. She was long in the body, more rangy and straight on the back, and tail set on higher, and was not equal to Peggy in the ham. She was famous for having large litters of pigs, seldom having less than twelve at a litter, and sometimes fourteen to sixteen. I slaughtered her in 1839.

"Jack of Newberry" was the first imported Berkshire boar brought to this section; was a large, rangy and superior animal—as the stock he left behind him is ample evidence; was about as light colored as Peggy, and slightly tinged with red or rusty color; was long and round in the body; very sloping from the hips to the tail; large and heavy hams for a boar; fine large shoulders, with a short thick neck, and medium sized head and ear; would weigh probably, in ordinary condition, from 350 to 400 lbs. Mr. Hawes sold him in 1835, to a gentleman in Troy, and afterwards he was sold again to a farmer in a western county of this State, which is the last we heard of him. "Jack of Newberry" was to the hogs in this country, what the "Godolphin Arabian," was to the horses in England.

In the summer of 1833, Mr. Hawes imported another Berkshire sow, called "Sally," which he said "was bred in Norfolk, from Berks stock." She was the largest and coarsest sow of the three; was larger in the head and legs, ears large, broad and drooping more over the eyes, body long, deep and capacious, very sloping on the rump, and tolerably good in the hams, color blue-black, a little tinged with rust, more white, and spots larger than either of the others. Sally, when young was rather a shy breeder, and Mr. Hawes disposed of her to H. Holland, Esq., of Ballston Spa, and I purchased her at his sale in the fall of 1836. I took three litters from her, one of which numbered eighteen, and then sold her to D. C. Collins, Esq., in May, 1838, when she died just after littering, much regretted by her owner as well as those who had engaged her pigs.

In the spring of 1835, Mr. Hawes imported a boar from another strain or family of Berkshires, who came into my possession with the farm, soon after he arrived, which I called "Siday,"—while others have called him "Telhurst." To use Mr. Hawes' words, "he came from Reading, but I cannot tell where he was bred." Siday was a jet black, with some white on his nose and face, tips of his feet white, but no white spots on his body; rather coarse in the head, wide between the ears, (a point Mr. H. thought much of,) which were large, broad and upright; remarkably deep and thick through the shoulders, short neck, and rather short in the body, but broad across the hip and loin, and falling a little from the hip to the tail. He was not as large nor as rangy as "Jack of Newberry," neither were his stock in general as large, but many of his pigs were beautiful specimens of the breed. Siday was slaughtered in 1839. The foregoing comprises what is termed "Hawes' importations," and came into my possession in 1835, from which most of the Berkshires in this country originated.

From this importation originated the famous sows "Maxima" and "Superior," and all the "large" and "small" Berkshires which were owned by Mr. Lossing, the Shakers at Watervliet, and others which have been sent to almost every section of this country, no other importation having occurred until the fall of 1838, from which pigs were raised in 1839.

It is said that the late John Brentnall, of Orange county, of this State, imported some Berkshire pigs as early as 1823, but they were not properly appreciated, and were hardly known beyond the smoke of his chimney.

C. N. BEMENT

Three Hills Farm, 1841.

Manure.

Manure is an important article in the cultivation of the soil; and its employment is so often referred to in the Cultivator and other agricultural works, that we want a uniform standard to designate quantities when used in the ordinary method, and particularly when relating experiments. In the application of manure, a *load* is an indefinite quantity. In the southern part of the State, where manure is purchased in the city of New-York, a load is a cartman's cart-box full, containing about fourteen bushels, and drawn by one horse. A friend of mine in Connecticut, near a thriving village, purchased some manure from a livery stable, and I saw two loads delivered at his farm. It was contained in ox-carts with loose sides above the permanent ones, and contained at least four times the quantity of a city cart load; and yet these eight were in that case only *two loads* of manure. An ordinary ox-cart will contain two city cart-loads. But ox-carts again vary in size, leaving it uncertain what quantity is contained in *a load*. I have read agricultural works where the quantity of manure applied to a crop, was stated by the *cart-load*, by the *ox cart-load*, by *the ton*, and also by *the cord*. Can the Editors of the Cultivator reconcile these differences, and recommend to their correspondents to adopt a definite quantity for *a load*, and for the better understanding of their readers, to reduce cords and tons into loads?

Richmond.

Inquiry—Hay Rigging.

Messrs. Editors—I have been a subscriber to the Cultivator some five or six years, yet among the numerous implements therein described, I do not recollect to have seen any mention made of the humble, but useful *hay rigging*. Cumbrous nondescripts of every form, size and weight, are to be found resting upon the fences and by the wood piles of the farmer. Some intended to be placed upon the regular body of the farm wagon—some having a separate body of their own, and some without any body, formed like the rack of a horse stall, and throwing the center of gravity many feet from the running gear of the wagon. Many farmers feel how inconvenient it is, in the busy season of haying and harvest, to assemble their whole force to "ship and unship" one of these unwieldy hay riggings. Now the object of this communication is to request from one of your numerous subscribers who understands a little of mechanics, and the principles relating to the "center of gravity," a description of a simple and light instrument for the transporting of hay and grain in the sheaf; one that shall not be top heavy upon our rough roads, and which shall be so constructed, as that when wanted or not, it can be taken to pieces and handled by one man. Yours, &c.

Morristown, N. J. June 25, 1841. A Subscriber.

Correspondence, Inquiries, &c.

Farming in the Southwest.

We make the following extract from a letter written by "*Uncle Jo*," Lawrence Co. Tennessee, in acknowledgment of the receipt of a set of the back volumes of the Cultivator, ordered by him. We should be glad to give the whole of the letter did our limits permit, for we like such "off hand" farmer's letters; they always tell. "Uncle Jo" may rest assured that there is no necessity of a corn crop of 25 bushels per acre; and the crops reported from Kentucky, since an improved system of culture was adopted, fully show this. The corn crop of Tennessee now exceeds that of any other State; by a rotation of crops and the feeding of more cattle and swine to make the requisite manure, this crop, if desirable, might be doubled:

"If you raise 100 bushels of corn per acre, and we get but 25, why in the name of common sense should we not abandon our plan and adopt yours? Is it good sense to persist in known and willful error, merely to be thought consistent? I for one will try your plan, especially in corn, and if it fails, I may then have some grounds for complaining of your advice, and with ease can return to my own ruinous and impoverishing system. I do not believe there is one half of the folks in this part of the country who hear of your large crops of corn, that believe a word of it. Some say the Cultivator is a Yankee machine for making money, and its statements, chaff, stuff, fudge, &c. They ask 'do you believe half '*them*' Cultivators say? Ah! I tell you them editors will print any thing for money.' It is true, there are many things new to us in your papers, and in your systems of farming, and if you are right, we are certainly wrong. I know you are right in one thing, and that is your description of our manner of doing business; true sir, true as preaching. One idea entirely new to many of us, I will mention; that is, your manner of making so much corn per acre with less labor, and not plowing or breaking the roots. We have been taught that deep plowing of corn, and barbarously mangling the roots, was the very life of it; but the new way says you might as well cut off the tops as the roots in order to make the corn grow. Our way says your cultivators for stirring and loosening the surface, will set and plant the grass and weeds; but your way says it is the best method to kill grass and weeds. Notwithstanding these prejudices, I am determined to have me a cultivator made as nigh like some of those figured in your volumes as I can, and give it a fair trial. I expect to make my bread by farming, and I wish to adopt the easiest and best plan. *We* are in a bad fix, and so is our husbandry; poor ground, light crops, foul lands, bushes, weeds, briars, &c., bad currency, hard times, money scarce, much in debt, produce low, and hard to make. I tell you, sirs, we farmers must improve our systems and do better, or we must stay or go to the foot of the hill. The banks have failed, government has failed, and for relief we must now look to ourselves and an improved agriculture."

Sugar and Starch from Corn.

A correspondent, "Viator," has suggested that Indian corn might be profitably cultivated for the sake of the sugar and the starch the stalk and the grain would afford; and requests, if any of the readers of the Cultivator are acquainted with any facts having a bearing on the subject, they would be kind enough to communicate them for publication. He wishes to ascertain, if known, the quantity of corn stalk juice it would take to make a gallon of molasses; and whether the "starch which may be obtained from the corn when the ears have attained their full size, and the kernels are filled with milk, would not justify the expense of manufacturing." If any of our readers can give information on this subject, we should be glad to receive it for publication in the Cultivator.

During the revolutionary war, molasses was frequently made from the corn stalk, and while it could be kept from fermentation, it was highly prized; but it soon became tart, an evil doubtless easily corrected by lime, as is now practiced in all sugar manufactories. Corn was tried in France for a source of sugar, but the beet was found to be preferable, and maize was abandoned. According to Humboldt, molasses is sometimes made in Mexico from corn stalks as it is in other places from the sugar cane. We question, however, whether corn will ever be cultivated for the sake of the sugar; if the grain can be converted into starch as Viator supposes, the case may be different. Viator has overlooked an important product of corn which it is possible might be made available. We have seen barrels of a fine lamp oil taken from the vats of a large distillery. It was ascertained that a bushel of corn worked, gave over a pint of oil; was easily purified, and burned, as we can testify, with a clear bright flame. If molasses, starch, and oil could be produced from corn, it would add to the already high character given it by Arator, (John Taylor,) who pronounced it to be "meal, meadow, and meat."

To expel the Clothes Moth and Cockroach.

A "Subscriber" at Long Green, Md., requests some information on the mode of expelling the pests named above from places where they have obtained a footing. Clothes presses that are perfectly close, may be fumigated with sulphur, which will destroy all insects, if thoroughly performed. Tobacco and camphor will prevent injury to clothes, if quantities are placed in contact with clothing of any kind in their place of deposit; unwashed wool is never attacked by the moth larvæ; and it has been used successfully to effect their expulsion, by placing locks of wool as sheared from the sheep, in places infested by them; still when once the moth has established itself, it is not expelled in ordinary cases, without much care and difficulty.

The cockroach may be destroyed by mixing with Indian meal about one-third its quantity of white or red lead, and moistening the mixture with molasses so as to make it moderately adhesive; this being placed in places infested with them will be greedily devoured; and by repeating the dose, the whole will be destroyed. Other poisons, such as arsenic, or sublimate, may be used mixed with molasses, but where lead, or any other poison is used, great care is required to prevent danger or death from its being eaten by others than those for which it was intended.

Chess from Rye.

George Muntz, Esq. of Butler Co. Pa., has forwarded us an account of an instance on his farm, of the transmutation of rye into chess:—

"He harvested from a field a crop of wheat 'clear of cheat,' turned in the stubble in August, and about the middle of September commenced sowing with rye, plowing it in. When all was sown but two acres, a heavy rain lasting some hours came on, and it was three or four days before the field was fit to commence working upon, and the sowing and plowing was recommenced after that time while the ground was still wet and cloggy. The rye first sown, gave a fine crop of good grain; that sown after the rain, as fine a crop of chess, with but little rye mixed with it. It was observed that the chess was in the greatest quantity in the part sown first after the rain, and decreased as the ground became drier before sowing."

We give the foregoing, not because we deem the conversion supposed, possible, as our readers are well aware, but because the facts stated may be of use in cautioning farmers against sowing lands with any grain, and particularly the less hardy kinds, while the soil is in a wet and unfit condition. We have repeatedly known failures both of grain and corn from this cause, and where the regular crop fails, weeds are sure to supply the place.

Turning Cattle into the Highway.

"Messrs. Editors—I sat a few days since in my old arm chair perusing the back volumes of the Cultivator, when I came across the farm account of Mr. Asa Carter of Jefferson Co. N. Y. I perused it with a good degree of interest and good feeling till I came to where he says he pastured his young cattle on the commons, when suddenly I felt my indignation getting the better of my good feeling, and I turned away from it with a feeling not unlike contempt, and thinking that in that respect at least, I could find a better teacher than Mr. Carter. It appears to me the man must lack one of the most essential elements of a good neighbor, who will turn his cattle into the road to filch their living from his kind neighbors. Cattle thus turned out, become unruly, and are every where except where they should be; and are kicked, stoned and dogged by all, unless they are endowed with an uncommon share of patience. We have to put ourselves in battle array, and daily examine our fences by the wayside, or wo be to our corn fields. Who would choose that man for a neighbor who makes it a practice to keep a dozen head of cattle in the road, and half as many half-starved, lantern-jawed, piked-nose, saw-horse breed of hogs that will go through a fence any where, where they can put their nose through? The way to have good neighbors, is to keep no more cattle and hogs than you can keep well, and keep them at home; keep good line fences, and your cattle out of the commons, and my word for it you will have a good neighborhood. An Enemy to Litigation."

[We have not had the pleasure of seeing Mr. Carter's farm, but we are aware that in many parts of the western and northern counties where there are large quantities of unenclosed lands, large stocks of cattle run at large, finding in the woods abundance of pasturage, and it is possible Mr. Carter's "commons" may be of that kind, and our correspondent's "indignation" so far misplaced. The remarks are, however, applicable, as the almanac makers say, to more latitudes than that of Jefferson County; and the evil complained of, is one that should be abated wherever it exists.]

Lucerne.

"Messrs. Editors—Were I a writing character, I would tell you of a piece of lucerne planted the first week in September, has been cut once, and is now ready to cut again, to feed my milch cows. It is the first attempt at field culture in this county. A few individuals have had their beds in the garden edged with it, but no one has ventured to try it in lots. Mine has turned out so well, that I think many will give it a trial next year. We should be pleased to have some directions in your paper about saving the seed. M. Rounsaville."

Lexington, N. C. June 2, 1841.

A deep dry soil, one containing considerable sand, is found best for the lucerne. In France, where it is cultivated extensively, the two great requisites are "a rich and dry soil." It may be sown in drills or broadcast, but the first is preferred, as it gives an opportunity for hoeing. In Kent, Great Britain, where it is much used for soiling milch cows, it is sown broadcast, and as the roots run deep, after the first year it is manured and cultivated with the harrow, which stirs the soil without injury to the plant. The seed is saved in the same way as clover seed, but is separated from the chaff either by hand, or in mills, much more easily. It is an invaluable plant in soils and climates adapted to its culture, and if experience should show it to succeed in the south, its acquisition for the feeding of cattle, where the common grasses are rarely found, will be an important one.

South Downs and Berkshires.

C. C. Hamilton, Esq. of Cornwallis, Kings Co. Nova Scotia, asks us if we can "inform him through the medium of the Cultivator, the price of pure South Down bucks delivered, at the city of New-York; and if there are any other late improved breeds of sheep imported suitable for the climate of Nova Scotia: also, the price of Berkshire hogs, delivered as above." South Down bucks may be had at from $25 to $50, and Berkshire pigs, 8 weeks old, at $20 per pair.

We do not know of any breed of sheep, which we think would be more likely to prove successful in Nova Scotia, than the South Down, or more intrinsically valuable. They are hardy, make fine mutton, and yield wool fine enough for any ordinary purpose, and are a well formed, fine looking animal.

Mr. Hamilton informs us, that the Provincial Legislature of Nova Scotia, at its last session, formed a Central Agricultural Board, and handsomely endowed it: besides giving £75 to each county, to be expended by the agricultural societies. The friends of agriculture in Nova Scotia have made an excellent beginning, and they are fully justified in expecting many important results in aid of that great source of national wealth from the expenditure.

Straw Cutter for Horse Power.

Jacob Glatz, P. M. Marietta, Pa. inquires "whether there is such a thing as a Straw Cutter that goes by horse power?" We know of none built expressly for this purpose, but there are thousands about the country worked by horse power, and nearly all the approved kinds may be worked in this way. The man who has a horse power, can easily make it available for sawing his wood, thrashing his grain, cutting his straw, &c. Green's or Willis' Straw Cutters, can be easily adapted by any mechanic to horse power.

Corn—Protection against Drouth.

A correspondent, "Pearl," in Hinds Co. Mississippi, after entering a demurrer to the opinion expressed by Mr. Garnett and ourselves, in the first number of the current volume, that "frequent stirring the earth is the best protection against drouth," goes on to say:

"In the driest year I ever saw a crop made, (1839,) I saw corn in a field where a part was plowed, and a part a plow had never been in, only a row dividing; and the plowed part was so dry that every step you took the dust would rise, and your shoe be covered with the light soil. In this part the corn was badly fired, or rather the stems were dry some three or four inches high, while the others were green to the earth. I pointed out this field to an old planter who believed in frequent plowing to cause moisture to rise, and he acknowledged he could not account for it. Again, in the same year I cultivated a piece of cotton with the sweep and harrow, another piece as usual, with the plow, only a path through the field dividing; and this same individual admitted without hesitation, the first piece stood the drouth the best. But with all this, I say use the plow occasionally, not to prevent the drouth, for when very dry, it appears to me the more the damp earth is exposed, and the dry earth turned in, the more the crop must suffer; and the more the roots are disturbed, the less nutriment the plant must receive. I have seen the finest kind of corn growing by the side of a large log where there was no chance of plowing near on one side, and the other not at all, and I believe the shade of the log prevented the moisture from evaporating; then there is no absolute necessity of plowing for moisture, and will not the dry earth on the surface afford more shade to the earth than by turning it under? I am decidedly in favor of leaving the earth as near level as possible, and keeping it light and mellow, but cannot see how stirring the earth will make moisture rise."

Notwithstanding the statements of our correspondent, we must still be permitted to believe that there is no so certain a method of preventing plants in all ordinary soils from suffering with drouth, as by frequently stirring the earth. We do not recollect that we have assigned as a reason for this process, that it made the "moisture rise," though this is literally true; since, in common soils, the capillary attraction is always proportioned to the fineness of the particles, as every farmer and gardener is aware. We believe in stirring the soil in drouth, because our experience has demonstrated the utility of such a course; while we admit we have never cultivated a very light sandy one, which may possibly be affected as described by our correspondent. In seasons of great drouth and heat, however, we have found that heaping the hot dry earth around plants aggravated the evil. The atmosphere contains moisture at all times, and this is yielded to frequently stirred lands in much greater proportions than to that not moved. This is easily demonstrated by placing a quantity of earth on plates, and expelling the moisture at a high temperature, then pressing one close and compact and leaving the other light and porous, and exposing both to the action of the atmosphere during the night, when it will be found the porous mass has imbibed more than the other. There is another reason why frequently stirred soils have more moisture than those not stirred. All soils contain more or less decomposing vegetable or animal matter. In the conversion of the carbon of this matter into carbonic gas, in which state it becomes food for plants, the oxygen of the air effecting this change is absorbed and the hydrogen set free, and this entering into a new combination, water is the result. This, the following extract from a communication by Dr. Dana, than whom there are few better authorities, will clearly show: "The amount of water proceeding from this source is truly astonishing. It has been found by actual experiment (see Nicholson's Journal,) equal, per hour, from an acre of fresh plowed sward, to 950 lbs. While the undisturbed ground gave not a drop;" and Liebig, in his late great work, admits in effect, the same result. If the effect observed in the vicinity of the log is attributable to the cause assigned by our correspondent, would it not be advisable to have in dry weather, corn shaded with a luxuriant growth of weeds, (for which indeed, some have contended,) to prevent its receiving injury from evaporation?

Carbonic Gas in Wells.—J. S. Slatter, of Glenville, Alabama, has furnished us an interesting account of the expulsion of this gas from a well. It was necessary to dig a well at a particular point, and after sinking it about 20 feet, a rock was struck which it was necessary to penetrate, but the well filled so rapidly with carbonic gas, that the laborers found it impossible to work, and were once or twice drawn up so exhausted that they were with difficulty restored. Throwing water into the well was tried with little benefit; when it occurred to the owner of the farm, to try forcing a current of air into the well. A blacksmith's bellows was brought, a leather tube fitted to its nose long enough to reach the bottom of the well, and by briskly plying the

bellows the deleterious air was quickly expelled, the rock perforated, and excellent water obtained.

National Agricultural Society.

We have several communications on this subject, which our limits compel us to abridge. The first is from W. Penn Kinzer, Spring Lawn Farm, Pequea, Pa. Speaking of the advantages of a National Society of Agriculture, he says:

"Information with regard to domestic animals, crops, &c. would not only become common stock by publication, but if annual conventions be held early in autumn, they would at once determine the real state of the crops throughout the Union, by concentrating a store of correct information from the proper source; which at present, is mere *hearsay*: then, of course, the question whether the general stock of bread stuffs will be short for home consumption, is at once ascertained, or if there be a small or large surplus for exportation, farmers will be equally interested in having correct and early information. They will not be held in suspense, whether to sell or store, as at present. The great national question too, in relation to a protective tariff on imposts, which is now producing a contrariety of opinion, will thus be met, by a tribunal which will not and dare not be disregarded. A question, it need not be said, vitally connected with the present paralysis of American industry. Farmers then will look with an eye single to the elevation of the character and standing of the cultivators of the American soil, and select from their number, suitable representatives, to guard their interests, to the exclusion of the mere pettifogger, to whose political appetite they have too long pandered; who, if he *were* desirous, would be ignorant of their interests, yet elevated above their sympathies, he can use the benefit of their suffrages and labor, and, withal, deny to them their just reward. Manufacturers would be equally concerned, their interests being happily blended with successful agriculture. But above all, annual national conventions, composed of the industrious productive classes, from all the states of the Union, states speaking through their delegates, where political and partizan spirit may look in, but dare not enter, where the political hatchet is buried, and all disorganizing and exciting subjects merged into one common whole, for the good of the whole. While other conventions are held, too often engendering sectional jealousies calculated in the end to sever and divide this great Union, here one will be presented, which in its general bearing, seeks only the public good, cannot fail to do much to cement and unite and strengthen our whole bond of union. In times like these, when we find the nation threatened by foreign invasion without, and by agitating vexed questions, producing civil commotion within, what would be more gratifying to the patriot heart, than to witness a convention composed of delegates, however incongruous in political matters, yet representing the great interests of the productive classes of the nation, altogether forming one harmonious whole, comprising four-fifths, perhaps five-sixths of our population, just imagine, what a controling political power may be wielded in support of the producing portion of our population. A high honor to be a delegate in such a body, to enjoy the 'feast of pleasure and the flow of soul.'"

Mr. Kinzer concludes as follows:

"On his promised route to Washington city in August, will our common friend, S. Robinson, anticipate for himself, or do himself the pleasure of a ride on our Pennsylvania line of improvements, from Pittsburg to Philadelphia, thence by the Baltimore railway to Washington? This route will afford, in addition to its expedition, scenery for the Agriculturist, which I think he will be unwilling to forego. When he shall arrive within fifty miles of Philadelphia, at a point on the railway called the Gap, *we* invite a halt, thence he will be directed a short walk to our *shereabouts*. I need not say, he may here depend on a cordial and hearty welcome. I would just suggest, that he prepare himself to deliver an occasional agricultural lecture while on his tour. May I hear from him?"

"A Young Farmer," of Woodlawn, N. C., says:

"No one, who will for a moment look at the condition of the farming interests of the country, can doubt the necessity of such an institution. This we readily admit. Then why admit the necessity, and doubt the expediency? It seems to me that all that is necessary to make it expedient, is for the farming community to see and feel that such a scheme is necessary. Then why should we hesitate longer? Recollect that the farmers of our country are a diffident and unassuming people. If a few such men as Mr. Robinson and Garnett would take the lead, the great mass of the farmers would soon follow. I am anxious to see something done for the cause of agriculture. But I have no hope of seeing it, unless we can unite, and do it ourselves. We need expect no aid from legislative bodies, unless we first make it a popular measure. Party spirit, like Aaron's rod, seems to have swallowed up their every faculty. Let us then, like a band of brothers, unite on some plan to concentrate our strength. If we succeed in this, we *can* make our power felt and respected in any portion of our commonwealth."

The next we give, is from Mr. A. G. Alsworth, Canton, Mississippi:

"But how true it is, that many of the cultivators of the soil, for want of union and information, have been left for ages to grope their way through ignorance and prejudices. If I am not very much mistaken in the signs of the times, there is a great change now going on in this country. Just at a glance of our agricultural census, what wonders are told of our resources. Now if the cultivation of the soil can be made to appear both honorable and profitable, how many more will be ready to enlist in the cause. We have a great many gentlemen of the bar, bankers, brokers, and others, who will soon have to obtain their subsistence by some other means than their profession, and I doubt not, many of them, with practical knowledge upon the subject, would make good farmers. Now, how is this object, "the elevation of the character and standing of the cultivators of the American soil," to be attained? I think it is to be done, first, by farmers associating themselves together, forming agricultural societies, and publishing and extensively circulating agricultural journals. In this way, every farmer, it matters not how limited his education, if he will take and read them, can obtain the experience, if he will not experiment himself, of those who are endeavoring to promote the interests of agriculture. Thus all are brought almost immediately to the best manner of knowing, obtaining, and promoting their interests. And in the second place, by establishing agricultural schools, to combine theory and the sciences with practice."

A correspondent who signs himself "Northern New-Yorker," from Ballston, takes another view of the matter. He says:

"I have strong doubts of the practicability, and consequently of the usefulness of such a Society, owing to the great extent of our country and the expense of attending such a convention. Our agricultural community is composed of thousands of intelligent, though comparatively small farmers, who never could afford to attend a National Convention; a farmer of a capital of from $2,000 to $5,000, consisting in from 50 to 150 acres of land, it being a fact well known, that a very large proportion of the farmers of the northern and eastern States are of this description, and never would attend such a convention. Again, any result they might arrive at when met, by a majority of votes, touching any disputed point in agricultural science, would scarcely command universal assent. Wheat turning to chess, or chess to wheat, or any mooted case, will never satisfactorily be settled by a vote in convention. It would also have a tendency to create a kind of agricultural aristocracy in which none but the rich could participate. Better lay out the money spent in traveling to distant conventions, in diffusing throughout the length and breadth of this Republic, agricultural papers, containing the investigations, experiments and results of practical and scientific farmers; (on this point, I was struck with the very sound common sense remarks of your correspondent, F. Burt of Ohio, in your July number of the Cultivator,) so that the man who cultivates his ten acres, as well as he that cultivates his hundreds or thousands, can, when he comes in from his garden or field, seat himself on his summer stoop, and in the shade of his shrubbery, read his Cultivator or some other agricultural periodical, costing him one dollar a year, and learn the views, experiments, and practical results of his brother farmers throughout the country, and obtain thereby more knowledge, (book knowledge, if you please,) than by performing a journey at the expense of one hundred dollars to attend an agricultural convention at Washington or Baltimore. If you wish to improve the mind or elevate the standard of the *mass* of the farming community, the means to effect it must be brought within their circumstances."

The "Skinning System," &c.

Mr. J. R. Moser, of Flint Rock, Lincoln co. N. C. gives the following account of the "skinning system," as practiced in that part of the United States:

"The '*skinning system*' is the only system that is generally in vogue among us, and that is practiced by some (excuse the expression) on an improved plan; for they plant their fields year after year in corn, and use no implement in its culture except a wretched fixture called a shovel-plow, with which they scrape their land, or perhaps at times the addition of a hoe. I said they *scrape* their land, that is, they scratch a fur row a few inches deep; then another so far from the first, that it may just cover the space with loose earth, so as to show a plowed surface. This they call 'breaking up their ground;' some do not even 'break up their ground,' but only mark it with their shovel-plows, so as to be enabled to deposit their seed in rows. The after culture is performed pretty much in the same manner as the breaking up. This is about all the culture their ground gets till the next season, when the same process is again gone through. This may give you some idea of our *improved* system of *skinning*. This description, however, does not apply to all our farmers, for there are some who use better implements, cultivate their farms in a better manner, are endeavoring to introduce improvements, and are setting a praiseworthy example. Still it is a source of regret, that most of our farmers are opposed to the improvements in modern farming. They say the plans laid down in the Cultivator, and other publications, will answer well for the wealthy, but for themselves, they are not able to follow them for the want of means."

We hope Mr. Moser will succeed in his intention of carrying out a rotation of crops, as a proof such a system is adapted to the south, and in any country where wheat, corn, beets, clover, &c. can be grown, we are confident there can be no insurmountable difficulties. Animals to furnish manures; lucerne, clover, beets, corn, &c. for feeding them, would, in our opinion, be far more advantageous to the south than present systems, and speedily convince the planter that the great corn crops of the middle and northern States are no 'exaggeration.' Mr. M.'s suggestions respecting Botany and Entomology shall receive consideration.

Transmutation.—Mr. N. Sutherland, a staunch believer in the conversion of wheat into chess, gives the following methods by which that conversion may be effected. As the most of them are not difficult of trial, perhaps some may have the curiosity to prove them; and by performing the feat, entitle themselves to Mr. Ruffin's premium:

"Wheat can be transmuted into chess by taking a few heads at harvest, and laying them on the ground to grow where they will not be disturbed, the land to be rather poor; or some heads may be taken that are scattered at harvest in the stubbles and grow, taking them up late in the fall, and setting them in a wheat-field; or some wheat may be put in a dish, and wet and dried as it is sprouting several times, and it will come up chess; or it may be fed or mowed off when eight or nine inches high; any of these methods will change wheat to chess. There is another cause that is frequently operative, and that is the frequent freezing and thawing of the surface in moist lands, which, by drawing the roots partly out of the ground, so injures the plant that it cannot produce wheat."

Cracked ears in Pigs.—Mr. Sutherland states the cause of this complaint in swine, to be exposure to the heat of the sun when the skin is tender, and feeding exclusively on dry food. The preventive is to keep the pig out of the heat of the sun, and feed the sows and pigs with ground food mixed with boiled potatoes, or once or twice a week a mess of raw ones. The cure is effected by making some ley, by putting ashes in water and stirring them up, let them settle and drain off, and then with a watering pot sprinkle it over their ears, or over the whole body if scurfy; or ashes may be scattered over them while it is raining.

Swill to Sows.—"Do not feed your sows much swill or slop in a day or two after their littering. I have a man on my place, who gave his sow a pail of swill soon after she had pigged, and she died in an hour; and I have known several instances in which from such feeding, sows have died in the course of the day."

N. Sutherland.

Italian Spring Wheat.—J. Edwards, of Virgil, Cortland Co., states the result of a successful experiment in the culture of this grain. He went 70 miles and procured 20 bushels of Italian wheat, which, by thorough cleaning was reduced to 16. This was sown in the spring of 1839, and produced 38 bushels to the acre, or 468 bushels. The land was plowed only once, but well pulverized with the harrow and cultivator, and ten loads of leached ashes applied to the acre. This wheat was sold for seed at two dollars per bushel. Mr. Edwards has about 115 acres of cleared land, and from the tilled part of this, (about one-half,) he has in the last four years, raised more than six thousand bushels of grain.

Poison of Snakes.—The editor of the Tennessee 'Agriculturist,' in noticing the discovery of M. Boucherie, in the coloring and the preservation of timber by impregnating the tree through the circulation of the sap with metallic oxides, (an account of which may be found in the June number of the Cultivator,) makes the following remarks:—"However, there are other phenomena full as mysterious. It is true, there is a kind of serpent called the 'horned-snake,' whose poison will so circulate through a tree it strikes, as to wilt the leaves in less than an hour, and finally to kill the stately oak. We have ourselves seen the experiment tried, of letting a *rattle-snake* strike a pole when in full sap, six or eight feet long, and in a few seconds the poison would ascend from the base end, and make its appearance at the top of the pole." A friend requests us to inquire, in what part of the country the "horned-snake" alluded to can be found; or in what authentic work, a description of it exists?

Great Sale of Improved Stock.

Wm. Neff, Esq. advertises in the Western papers, that he will offer his extensive herd of Improved Short Horn Durhams, at public sale, on the 6th and 7th days of September next, at his farm near Cheviot, seven miles from Cincinnati. The catalogue embraces fifty-two animals, all pure blood, and nine of which were imported. For a notice of this stock, see "Letters from the West," in the July Cultivator. It includes, as we are assured from other sources, some of the best blood and finest Durhams to be found in the country. There will be sold at the same time, a large number of fine hogs of the Grazier and Berkshire breeds, and a number of South Down, Bakewell, and Cotswold Sheep. One and two years credit will be given on the sales.

Notices to Correspondents, &c.

Communications have been received, since our last, from A Subscriber, W. R. Peck, Commentator, J. M. Garnett, A. G. Alsworth, W. Penn Kinzer, J. H. Wilson, J. L. Bowman, C. N. Bement, W. D. Taylor, D. L., Wm. J. Wright, H. S. R., L. Physick, W. H. Sotham, Wm. Cother, An Onon. Farmer, J. M. Weeks, A young Farmer, S. Moore, P., Northern New-York, One always willing to Learn, D. H. Cadwallader, Geo. Woodfire, A. Walsh, M. Quimby, H. W. M., B. W. Brit, Solon Robinson.

☞ Some notices of New Works, Answers to Inquiries, Communications, &c. intended for this number, are unavoidably deferred till next month.

CONTENTS OF THIS NUMBER.

Illustrations.

STEAM-PRESS OF C. VAN BENTHUYSEN.